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ABSTRACT

Throughout the world pregnancy and childbearing are occurring at younger ages than in the past, resulting in adverse health, demographic and social consequences. Postponing first births until age 20 or later would significantly reduce maternal and infant mortality and morbidity, slow population growth, and contribute to improvements in the quality of life for people everywhere. This conclusion is based on an examination of the problems associated with adolescent sexuality and fertility. This report provides background to these problems, analyzes current trends, and specifically discusses the medical risks of early pregnancy, demographic and social consequences of early childbearing, delivery of family planning services, contraception and abortion for adolescents, and sex education. The report concludes with a comprehensive bibliography. (Author/SJL)

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Adolescent Fertility —Risks and Consequences—

SUMMARY

Throughout the world pregnancy and childbearing are occurring at younger ages than in the past, resulting in adverse health, demographic and social consequences. Postponing first births until age 20 or later would significantly reduce maternal and infant mortality and morbidity, slow population growth, and contribute to improvements in the quality of life for people everywhere.

The concept of adolescence as a time of gradual transition from childhood to adulthood is relatively new, particularly in developing countries. Only recently has it been recognized that boys and girls in the approximate age range of 10-20 years differ physiologically and psychologically from children and adults and therefore constitute a distinct group of individuals. The 1974 World Health Organization (WHO) Meeting on Pregnancy and Abortion in Adolescence defined adolescence as the period during which:

- the individual progresses from the point of the initial appearance of the secondary sex characteristics to that of sexual maturity;
- the individual's psychological processes and patterns of identification develop from those of a child to those of an adult;
- a transition is made from the state of total socioeconomic dependence to one of relative independence (255).

Historically, most cultures attempt to control adolescent sexual activity. In Asia and many parts of Africa, early marriage for girls encourages adolescent childbirth but insures that it will occur within a socially accepted pattern. Some African cultures permit premarital adolescent sexual activity, but discourage pregnancy by ritual restrictions such as coitus interruptus. If pregnancy occurs despite precautions, it may result in forced marriage, legal action, ostracism, abortion, or even infanticide. However, in some areas—including parts of Latin America and the Caribbean—premarital sexual relations and childbearing are widespread and culturally acceptable.

Earlier sexual maturity, later marriage, and greater opportunities for sexual contacts due to urban lifestyles suggest that developing countries will be increasingly confronted with problems of adolescent sexuality.

This report was prepared by William Burr Hunt II, on the basis of published reports and articles, unpublished papers, personal interviews, and correspondence.

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Frances G. Conn is Executive Editor. Comments and additional updated material are welcome.

Adverse Consequences

Early childbirth, regardless of marital status, is more dangerous for adolescents and their infants than for older women. Postponing the age at first birth until 20 or more would reduce maternal and infant mortality and morbidity, especially in developing areas which lack adequate medical facilities for prenatal care.

Demographically, childbearing at young ages is associated with rapid population growth due to shorter time spans between generations and greater cumulative fertility. Therefore, emphasis on delaying first births can be an important element in population control programs.

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For all adolescents in developed and developing countries, early childbirth restricts educational and career options and contributes to the maintenance of low socioeconomic status. Unmarried girls, particularly, may face the additional problem of forced, premature marriage or suffer social and legal discrimination.

Family Planning Services

Much of the unprotected intercourse among adolescents is due, in part, to limited access to family planning information and services. Married adolescents, especially in developing countries, often find it difficult to obtain family planning services because of program orientation toward older couples with children. Unmarried adolescents are frequently denied contraceptive and abortion services due to legal restrictions, cultural habits, and social pressures.

For sexually active adolescents who are physiologically mature and sufficiently motivated to use oral contraceptives regularly, the pill is an effective method of preventing unwanted pregnancy. Intrauterine devices, especially the small, copper IUDs developed in recent years, are effective and may be preferable if daily pill-taking poses problems. Although their use-failure rates are higher, nonprescription methods such as condoms may be suitable for unmarried adolescents who have sexual relations infrequently and unpredictably.

Unwanted pregnancies resulting from lack of contraceptive use have led to increasing numbers of abortions among young girls everywhere. Abortion is often more traumatic physically for adolescents than for older women, since the young usually wait longer before seeking termination, at which time relatively more complicated procedures may be required. Inexperience, ignorance, legal and social restrictions, and economic constraints hinder adolescents from seeking prompt termination of unwanted pregnancies.

Preventing early, unwanted childbirth has benefits for the individual and for society. Expanded family planning services, supplemented by broad educational programs, are likely to encourage responsible sexual behavior and delay parenthood.

BACKGROUND

The problems associated with adolescent sexuality and fertility have received little attention in many developing countries, since, for most cultures, the concept of adolescence itself is relatively new and unfamiliar. Even today, there is no intermediate stage between childhood and adulthood in many rural areas, but rather a sudden transition to adult status sometimes marked by puberty or initiation rites or by child marriage (19, 35, 126, 229).

Early Marriage

Different cultures have prohibited or accepted sexual activity among young people, in- or out-of-wedlock, with many variations between these two extremes. Many developing countries, especially in Africa and Asia, traditionally encouraged early marriage for girls, prior to or shortly following puberty. Consequently, sexual relations and childbearing began early but the incidence of nonmarital pregnancy was reduced. For example, in rural areas of India girls were frequently married before menarche (first menstruation) although sexual relations did not begin until several years later (135, 163). It was believed that the menstrual blood formed the primary material of the embryo, and to lose any of it before entry of sperm amounted to infanticide (74). In areas of East Java, it was considered a disgrace to have a daughter experience her first menstrual period before being betrothed (115).

The practice of early marriage remains widespread (see Fig. 2). An estimated 40 percent of all girls aged 15–19 in Africa are married and almost 30 percent in Asia—compared with 15 percent in the Americas, 14 percent in Oceania, 9 percent in the Soviet Union, and 7 percent in Europe (72, 129). More than 70 percent of girls aged 15–20 are married in Chad, Mali, Niger, Tanzania, Bangladesh, India, Nepal, and Pakistan (129).

Prohibition of Sex

Most industrialized and many developing countries have traditionally prohibited premarital sex among adolescents. Except in areas where early marriage was common, adolescents were expected to abstain from sexual intercourse leading to pregnancy. In addition, cultural mechanisms were established to encourage female chastity. For example, traditional Chinese cultures often segregated adolescents. Village girls were sent to sleep and spend part of the day in special "girls' houses" (226). Segregation was accomplished in many African cultures with rigid rules prohibiting sexual contact between men and women of the same clan. Territorial separation of clans supported enforcement of this prohibition (103, 130). In many Mediterranean, Asian, Latin, and Islamic cultures chaperonage helped to regulate premarital contacts among the young (103).

In those Asian countries where early marriage was not traditional, total abstinence from intercourse generally was expected of unmarried adolescents, especially girls. Violation meant considerable social disgrace for a girl and her entire family. Premarital pregnancy resulted in her compulsory marriage to the father of her child (102, 105, 125, 135, 163).

Cultural Acceptance

Some societies where adolescent sex and premarital parenthood are culturally acceptable, including parts of Latin America and the Caribbean, have a history of unofficial marriage, termed consensual or "conviviente." Young people simply live together and have children without formal marriage (135, 163). In many of these areas, more than half of all births are to mothers who are unmarried or are involved in consensual unions (see Fig. 3).

Among the Gusii of western Kenya and many matrilineal societies in Malawi premarital sex and childbirth at a young age were widely accepted. An out-of-wedlock child proved a woman's fertility and made her more desirable to prospective suitors (43).

Tolerance with Restrictions

In many societies, adolescent sexual activity has traditionally been tolerated or even encouraged. However, societal or cultural restrictions governed premarital sex to reduce the risk of unwanted childbirth (156, 163, 182). Molnos found this pattern typical of East African tribal cultures. In most tribes sexual intercourse was absolutely prohibited before circumcision and/or initiation rites. Adolescents were then instructed by older members to avoid penetration or to practice withdrawal in order to prevent pregnancy which would result in social disgrace, ostracism, abortion, or infanticide (156).

Nag found that among the Kgatla in Botswana, premarital sex was common, but coitus interruptus was practiced to avoid pregnancy. However, if an unmarried girl became pregnant, she could seek an abortion or her parents could take legal action against her partner, requiring marriage or damages, usually in cattle. In many Masai societies, the man responsible for the pregnancy of an unmarried girl was required to help her if she wished to obtain an abortion (163).

CURRENT TRENDS

While adolescent fertility has received little attention from family planners in most developing countries, the percentage of births to young married and unmarried mothers, compared with other age groups, is growing. Likewise, data and anecdotal evidence indicate that the incidence of premarital sex and pregnancy among adolescents is increasing.

These factors suggest that these trends will continue. They are:

- Adolescents in many areas are sexually mature and capable of reproduction at a younger age than their parents were.
- The age at marriage is rising.
- Urbanization and lifestyles associated with it provide more opportunities for sexual relationships and reduce the effectiveness of traditional social restraints.

Sexual Activity

United Nations (UN) demographic data indicate that in many developing and industrialized nations births to women under 20 represent a growing proportion of all births. For example, in the USSR births to women under 20 rose from 3.3 percent of the total in 1963 to 8.8 in 1973, and in the German Democratic Republic from 13.6 (1963) to 23.0 (1972). Steady increases are evident in many developing countries, including Madagascar (from 16.3 in in 1964 to 23.2 in 1972), Chile (12.1 in 1966 to 15.1 in 1971), the Philippines (6.7 in 1964 to 8.7 in 1972), and Taiwan (4.5 in 1964 to 8.3 in 1969) (see Table 1).

An increase in premarital sex among adolescents is well documented in the USA and Great Britain, and to a somewhat lesser extent in other developed countries, including Australia, Sweden, the USSR, Japan, and the Federal Republic of Germany (25, 44, 103, 112, 149, 204, 207, 209, 211, 222, 262, 263, 264). Evidence exists of a similar trend in most other regions of the world although information on adolescent reproductive behavior in developing countries is likely to be anecdotal and fragmentary (20, 21, 26, 37, 110, 112, 117, 121, 124, 171, 172, 174, 179, 203, 229, 254, 255).

Fig. 1. This young Latin American mother faces the universal consequences of adolescent childbearing. Her future economic and social advancement is jeopardized by premature parenthood.
(Courtesy of Airlie Foundation, Airlie, Virginia.)

Age at Menarche

The trend toward earlier menarche appears to be universal, although it seems to have leveled off in a few developed countries (260). Today girls everywhere are sexually mature at an earlier age than previous generations (see Table 2) (19, 25, 56, 76, 98, 124, 132, 135, 141, 142, 150, 163, 174, 175, 190, 192, 202, 203, 220, 227, 248, 252, 254, 255, 261). For example, in Europe the mean age at menarche has decreased by about 10 months each generation (142). According to Parkes, 50 percent of the girls in 1845 were menstruating by age 15, while 50 percent in 1962 were menstruating by age 12 (175). Similar decreases have been found in the age at menarche in the USA and Japan (56, 135, 190, 220, 227, 258, 261). Genetic, health, and socioeconomic factors influence the wide variations in age at menarche among different cultures. Recent data suggest that the attainment of a certain body size and the accumulation of a certain proportion of body fat are necessary to trigger menarche (78). Better nutrition in childhood also appears to be a major cause of early menstruation (135, 163, 220, 261). Thus, whenever nutritional improvements occur, the age at menarche is likely

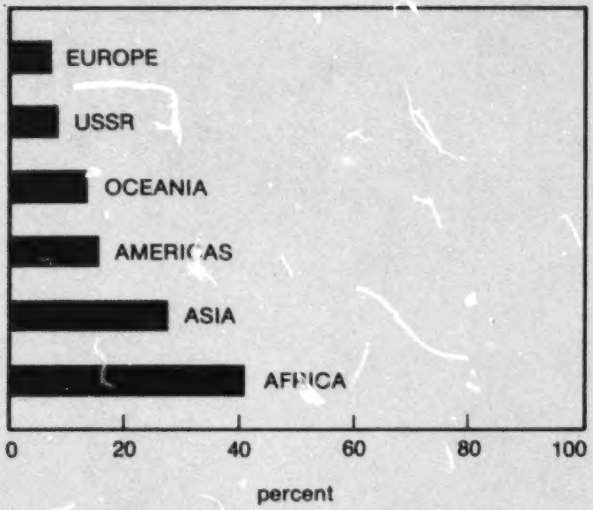

Fig. 2. Percent of females aged 15-19 who are or have been married, by region, 1960–1971.
SOURCE: Adapted from United Nations, Study on the Interrelationship of the Status of Women and Family Planning (234).

to decline gradually for several generations before reaching a plateau at 12–13 years.

Age at Marriage

Sexual maturation is not only taking place earlier, but the age at marriage is increasing, thereby extending the period of nonmarital fecundity. Since boys and girls spend more years in school, enter the labor market later, and marry later, a widening gap exists between sexual and social adulthood (see Fig. 4) (124, 142, 174, 229, 252, 255). Therefore, adolescents are exposed to the risks of unwanted, premarital pregnancy for more years than previous generations.

There is a tendency to delay marriage in many developing areas, particularly in those urban centers of African and Asian countries with a tradition of very early marriage (66, 102, 113, 120, 163, 226, 229). Demographic data from the UN corroborate this trend (see Table 3). For example, in India the estimated mean age at marriage for females has gradually risen from 12.8 to 16 during this century (65). A similar change has occurred more recently in the People's Republic of China. The 1950 Marriage Law raised the minimum age of marriage to 18 for girls and 20 for boys, and a later campaign stressed postponement of marriage until age 25 for women and age 28 for men. Although precise data are unavailable, the campaign apparently has succeeded in reducing significantly the incidence of early marriage (39, 63, 129, 135, 170, 229).

Historically, adolescents in the USA have married at younger ages than their counterparts in other industrialized countries (112, 213, 243). Since the late 1950s, however, there has been a gradual trend in the USA to marry at a later age, and the median age at first marriage rose from 20.3 in 1960 to 21.1 in 1975 (242).

Increasing Urbanization

The major traditional mechanisms which affect adolescent sexuality are less effective in modern, urban areas. Social controls such as segregation of the sexes and chaperonage are more difficult to enforce. At the same time, adolescents have greater personal freedom and are

Fig. 3. Percent of total births out-of-wedlock in selected countries, 1963–1968.
SOURCE: *UN Demographic Yearbook, 1969* (the latest year for which data were reported).

subject to fewer community and family pressures. Expanded opportunities for informal social contact and courtship and for exposure to foreign customs, especially through the communications media, encourage the development of nontraditional attitudes related to sexual behavior (25, 35, 69, 103, 121, 124, 156, 171, 174, 175, 182, 196, 205, 229).

Thus rapid changes in adolescent sexual behavior may result as the rural-urban transition continues. Projections by the UN, prepared for the 1974 World Population Conference, estimate that 50 percent of the world's population will live in urban areas by the year 2000, compared with 36 percent in 1970 (238). The greatest changes are likely to occur in developing areas. In Africa the urban population is expected to increase from 21.1 percent of the total in 1970 to 37.8 in 2000; in Latin America from 56.7 to 75.1; in East Asia from 26.5 to 47.0; and in South Asia from 20.8 to 35.0 (238).

In their survey for the US Commission on Population Growth and the American Future, Kantner and Zelnik found that those who migrate from rural to urban areas have a higher probability of engaging in premarital coitus at an early age than those who always lived in either rural or urban areas (264). This pattern may exist in developing countries as well, but no data exist to verify it.

MEDICAL RISKS OF EARLY PREGNANCY

Risks of morbidity and mortality are greater for adolescent mothers and their children than for mothers aged 20 or more. Postponement, then, of first pregnancy until after age 20 would reduce maternal, fetal, and infant morbidity and mortality, as well as obstetrical complications.

Maternal Mortality

Pregnancy at either extreme of the reproductive years increases the risk of maternal mortality. Mortality figures are high for mothers under 20, decrease to a minimum for those aged 20–30, and then rise until the end of the childbearing years (see **Population Reports**, J–8, November 1975) (69, 167). This pattern exists both in developed and developing countries. Although social and economic factors such as nutrition and prenatal care may reduce mortality resulting from obstetrical complications to some extent, the maternal age factor has an independent influence on relative risks (22, 68, 135, 167, 254).

For those under 20, mortality appears to be inversely related to age (19, 203, 219). However, limited available statistics do not permit a further breakdown of risks within this age group since all women under 20 are generally combined into a single category (254).

Obstetrical Complications

The medical complications of adolescent pregnancy include:

- first and/or third trimester bleeding (23, 192);
- severe anemia (19, 106, 146, 148, 167, 188, 191, 192, 195, 248, 254, 255);
- complications of labor, including prolonged and difficult labor, and cephalopelvic disproportion (19, 106, 135, 146, 148, 167, 188, 195, 199, 219);
- toxemia of pregnancy, including preeclampsia and eclampsia (see Table 4) (19, 23, 68, 106, 135, 141, 146,

Table 1—Trends in Percentage of Total Births to Women Under 20 in Selected Countries, 1962–1973

REGION Country*	Latest Data % (year)	Previous Data % (year)	Previous Data % (year)	REGION Country*	Latest Data % (year)	Previous Data % (year)	Previous Data % (year)
AFRICA				Malaysia (West)	9.1 (1971)	9.6 (1969)	10.8 (1966)
Algeria	12.8 (1965)	10.6 (1964)	NR	Philippines	8.7 (1972)	7.6 (1969)	6.7 (1964)
Egypt	3.8 (1972)	3.7 (1971)	3.2 (1969)	Taiwan	8.3 (1969)	7.3 (1967)	4.5 (1964)
Liberia	16.8 (1971)	19.3 (1970)	NR	**NORTH AMERICA**			
Madagascar	23.2 (1972)	18.2 (1967)	16.3 (1964)	Canada	12.0 (1973)	11.5 (1967)	9.0 (1963)
Tunisia	6.1 (1971)	5.7 (1969)	7.9 (1965)	USA	19.3 (1972)	17.1 (1969)	14.5 (1963)
CENTRAL AMERICA AND CARIBBEAN				**EUROPE**			
Cuba	16.9 (1968)	19.1 (1966)	NR	Denmark	6.8 (1972)	11.5 (1966)	11.8 (1963)
Dominican Republic	10.8 (1972)	11.6 (1971)	13.0 (1967)	German Democratic Republic	23.0 (1972)	16.3 (1968)	13.6 (1963)
El Salvador	18.5 (1973)	18.3 (1972)	17.7 (1971)	Hungary	16.3 (1973)	14.4 (1968)	12.4 (1963)
Mexico	12.1 (1972)	11.2 (1968)	11.2 (1964)	Italy	9.2 (1970)	9.0 (1967)	4.1 (1963)
Trinidad & Tobago	19.2 (1972)	18.3 (1971)	17.2 (1967)	Poland	8.1 (1972)	9.5 (1967)	6.7 (1963)
SOUTH AMERICA				Spain	3.5 (1973)	2.6 (1968)	1.9 (1963)
Bolivia	8.3 (1966)	7.6 (1962)	NR	Sweden	7.5 (1973)	11.4 (1967)	11.7 (1963)
Chile	15.1 (1971)	13.9 (1969)	12.1 (1966)	Yugoslavia	14.4 (1972)	12.9 (1967)	8.3 (1963)
Colombia	12.1 (1971)	10.1 (1967)	9.2 (1963)	**OCEANIA**			
Venezuela	15.9 (1971)	14.8 (1966)	14.0 (1963)	Australia	11.0 (1971)	10.8 (1967)	8.9 (1963)
ASIA				Fiji	9.5 (1973)	9.0 (1968)	8.9 (1964)
Indonesia	13.4 (1964)	NR	NR	New Zealand	14.5 (1972)	13.3 (1967)	15.5 (1964)
Japan	0.9 (1973)	1.0 (1970)	1.2 (1967)	**USSR**			
				USSR	8.8 (1973)	6.7 (1967)	3.3 (1963)

*Selection based on availability of data to show percentage range within individual regions.
NR = Not Reported
SOURCE: Compiled from natality statistics in *UN Demographic Yearbooks, 1968, 1969, 1970, 1971, 1972, 1973, 1974.*

148, 167, 174, 188, 191, 192, 199, 202, 219, 229, 248, 254, 255).

Intercourse and pregnancy at very young ages have also been associated with increased risk of cervical cancer, although a number of other factors may be involved, including total number of sexual partners, number of pregnancies, venereal viral infections, and socioeconomic status. Nonetheless, coital experience during adolescence does appear to be a major factor linked to later development of cervical cancer (7, 203).

Infants of Young Mothers

Infants of adolescents experience a higher incidence of prematurity and low birthweight and have higher mortality rates than children of older mothers (see Table 4) (19, 23, 38, 42, 68, 106, 118, 135, 141, 142, 146, 148, 174, 179, 186, 188, 192, 195, 199, 202, 203, 219, 229, 254, 255, 257). Low birthweight is probably the most important cause of high neonatal and infant mortality rates in Latin America, according to the Inter-American Investigation of Mortality in Childhood of the Pan American Health Organization (PAHO). Statistics from this study and from the USA confirm that infants of young mothers are more likely to die than those of older women (see Table 5) (167, 186). Low birthweight in children of very young mothers has also been associated with congenital defects and mental and physical handicaps, including epilepsy, cerebral palsy, retardation, blindness, and deafness (111, 146, 148, 167, 192, 195, 203, 255).

DEMOGRAPHIC CONSEQUENCES OF EARLY CHILDBEARING

Delaying the onset of childbearing beyond age 20 could significantly reduce population growth by lengthening the period between generations and decreasing cumulative fertility through a shortened reproductive period. Family planning programs in developing countries generally concentrate on reaching older couples with children, encouraging them to prevent additional unwanted births. Considerable gains in long-range population control could be achieved by development of adolescent fertility control services, education aimed at delaying first births, and encouragement of contraceptive practices.

Generation Length

Postponement of early childbearing lengthens the time span between generations and slows population growth, even if ultimate family size remains unchanged (4, 193). If later age at first birth is accompanied by a reduction in completed family size, the potential for slowing population growth is significantly increased (see Table 6). Coale noted the importance of age at first marriage and childbirth in determining the average rate of population increase over a long period of time (45, 46).

Cumulative Fertility

Early childbearing is associated with higher parity, short birth intervals, and large completed families (3, 33, 119,

Table 2—Estimated Average Age at Menarche and Reported Trends in Selected Areas, 1970–1976

Author & Date	Ref. No.	Country or Region	Estimated Average Age at Menarche (in years)	Reported Trend
Akhter, 1974	19	Bangladesh	13	Decreasing
Akingba, 1974	20	Nigeria	13-15	NR
Asayama, 1974	25	Japan	13.2	Decreasing
Devadas, 1975	61	India	12.9, 14.3*	NR
Kumekpor, 1973	124	West Africa	NR	Decreasing
Massé, 1975	142	Hong Kong	12.7	Decreasing
Park, 1974	174	Republic of Korea	14.4	Decreasing
Parkes, 1975	175	Europe	12**	Decreasing
Sinnathuray, 1974	212	Malaysia	12-14	NR
Vis, 1975	246	Rural Central Africa	15-16	NR
Widholm, 1971	248	Finland	13.2	Decreasing
Zacharias et al., 1976	260	USA	12.8	Stable

NR = Not Reported
*Urban, rural
**Fifty percent menstruating by age 12.

135, 146, 147, 148, 169, 185, 193, 228). Menken suggests that greater cumulative fertility may be due to a natural selection process, whereby girls who are more fecund and less likely to practice birth control marry and/or become pregnant at an early age (146). Knodel and Prachuabmoh in Thailand, Busfield in Great Britain, and Presser, Ravenholt, and Lyons in the USA note that girls who begin sexual relations early will have more reproductive time for childbearing and may have larger families due to lack of experience with nonfamilial roles (33, 119, 185, 193). A Brazilian study also concluded that mothers who give birth to their first child when they are quite young not only reproduce during a longer period than mothers who bear their first child later in life, but do so with greater intensity reflected in shorter intervals between births (163).

The present world population under 20 years of age—including children under 10 who will be entering adolescence during the next decade—equals more than half of the total population in many developing countries (see Fig. 5). If these young people are offered options to traditional early parenthood through family planning services and education, it is likely that many will also practice birth control later in their reproductive lives. However, no evidence exists to verify this proposition.

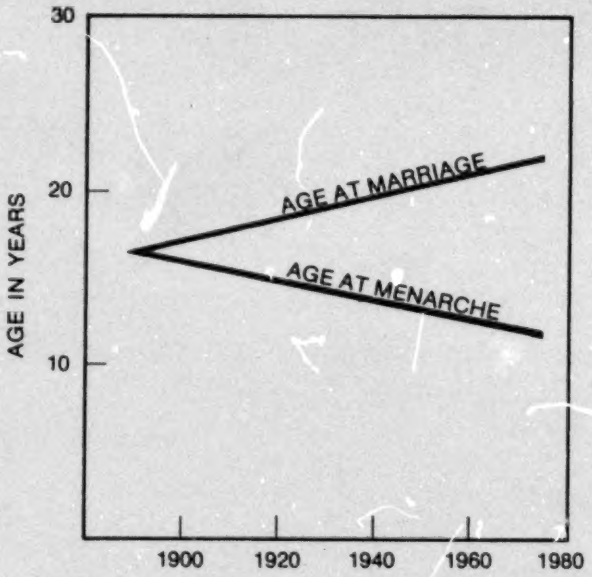

Fig. 4. Increasing gap between sexual and social adulthood, indicated by declining age at menarche and rising age at marriage.

SOCIAL CONSEQUENCES OF EARLY CHILDBEARING

Often, from the adolescent's view, one of the most important consequences of early pregnancy is the restriction of future opportunities for improved socioeconomic status. For all girls, regardless of marital status, pregnancy and childbirth in adolescence may interrupt educational and career opportunities. Unmarried girls face additional problems associated with out-of-wedlock birth or premature marriage.

Interrupted Education and Career

The UN World Population Conference Study on the Interrelationship of the Status of Women and Family Planning concluded that:

> The benefits of family planning are important, not only for regulating the number and spacing of children but also in enabling girls and young women to avoid an early pregnancy that might force them to leave school or employment, and even to marry prematurely. (233)

Whether she is married or not, the pregnant adolescent frequently must quit work or leave school. Her career options and prospects for future earnings thus become limited (31, 42, 117, 147, 180, 184, 185, 192, 195, 219, 228).

Out-of-Wedlock Birth

The social consequences of out-of-wedlock birth vary considerably from culture to culture. In many areas of Africa and Latin America out-of-wedlock birth is common and socially acceptable. In most other countries, however, this is not the case.

At the 1974 WHO Meeting on Pregnancy and Abortion in Adolescence, Sinnathuray noted that in Malaysia, out-of-wedlock pregnancy is regarded as a sin and disgrace to the young girl and her entire family. Strong social pressures may lead to forced marriage or illegal abortion, and occasionally may cause the pregnant girl to commit suicide (212). The unmarried adolescent with a child may also find that her prospects for future marriage are reduced.

Likewise, the out-of-wedlock child may face social and legal discrimination and aggravated economic hardship. Because of the high incidence of consensual unions in Latin America and the Caribbean, many children are technically "illegitimate." In the past, a child born out-of-wedlock might be cared for by the extended family or community, but out-of-wedlock births to poor girls in urban areas often lead to child neglect or abandonment.

In 1959 the UN adopted the Declaration of the Rights of the Child calling for the elimination of discrimination toward children. Lee and Paxman report a gradual movement toward legal equality for children born in- and out-of-wedlock. For example, according to a 1972 French law and a 1975 Italian law, all children possess equal legal rights to support and inheritance (17, 129). Laws in the USA and Great Britain have been revised to permit unmarried mothers and their children to receive social welfare aid. In Costa Rica, the constitution states that equal treatment be given to children born in- and out-of-wedlock, although this provision has not been widely enforced (129).

Premature Marriage

Due to societal disapproval of out-of-wedlock birth, marriage is viewed in many countries as a necessary consequence of premarital pregnancy. Although marriage may allow the pregnant adolescent to avoid social disapproval or discrimination, it does not eliminate the medical risks of adolescent pregnancy or reduce the adverse consequences of early marriage such as interrupted education.

Furthermore, forced marriage resulting from premarital pregnancy is less stable than planned marriage in many cultures. Studies in the USA confirm that marriage result-

ing from premarital pregnancy is associated not only with economic disadvantages, but also with a significantly higher rate of divorce (see Fig. 6) (57, 146).

DELIVERY OF FAMILY PLANNING SERVICES

Provision of family planning services to adolescents is hindered by a variety of legal and social restrictions including:

- statutes or common law traditions that do not permit minors to give consent for their own medical care,
- program orientation toward pacing or limiting additional births rather than postponing first births.

Single adolescents face the added obstacle of legal or cultural restrictions which limit their access to family planning services. Where family planning services are generally available, married adolescents usually encounter few legal restrictions. However, married adolescents who wish to postpone parenthood are frequently ignored by family planning programs aimed at older couples with children.

Legal Restrictions

Some countries restrict contraception by age, regardless of marital status, or by requirements that married adolescents—as well as older women, in some cases—have their husband's consent for contraception. In Gabon oral contraceptives can be prescribed for women under 25 only in cases of "absolute necessity." In Hungary IUDs are permitted only for women who have given birth or are over 18. Oral contraceptives for women between 16 and 18 can be prescribed only by medical specialists in obstetrics and gynecology (101, 129).

Similar restrictions affect abortion services. In many countries—including Egypt, South Korea, Morocco, and Turkey—a woman may not obtain an abortion without her husband's consent (129, 168).

Program Orientation

Most family planning programs focus on reaching older couples with children to prevent additional births, so little attention is paid to either married or unmarried adolescents. The few services that do reach adolescents are often part of postabortion or postpartum programs (253).

Sai observed that many family planners in Africa tend to ignore couples without children (206). Statistics and anecdotal reports indicate that in most countries couples seldom are encouraged to practice birth control until they have at least one, and frequently, more children. For example, Mencher reported the story of a young man in Kerala with a 15-year-old wife who wanted to postpone having children for a few years. Family planning officials told him to return after he had two children (145).

Data concerning adolescent contraceptive use in developing countries are fragmentary, but available information indicates that married adolescents in Latin America receive more contraceptive services relative to other age groups than their counterparts in Africa or Asia (see Table 7) (168). Data, however, do not include parity, thus making it impossible to determine to what extent acceptors are postponing first births.

Table 3—Trends in Percent of Married, Widowed, or Divorced Females, Aged 15–19, in Selected Countries, 1957–1971

REGION Country*	Percent of Married, Widowed, or Divorced Females Aged 15–19		REGION Country*	Percent of Married, Widowed, or Divorced Females Aged 15–19	
	Latest Data % (year)	Previous Data % (year)		Latest Data % (year)	Previous Data % (year)
AFRICA			Nepal	60.1 (1971)	73.8 (1961)
Burundi	12.2 (1965)	NR	Singapore	4.8 (1970)	20.0 (1957)
Liberia	46.0 (1971)	56.5 (1962)	Turkey	19.7 (1970)	32.7 (1960)
Morocco	33.8 (1971)	55.0 (1960)	**NORTH AMERICA**		
Uganda	49.5 (1969)	NR	Canada	7.5 (1971)	7.6 (1966)
CENTRAL AMERICA AND CARIBBEAN			USA	11.9 (1970)	12.2 (1967)
			EUROPE		
Dominican Republic**	22.2 (1970)	24.9 (1960)	Belgium	6.9 (1970)	5.8 (1961)
Mexico**	21.2 (1970)	18.7 (1960)	Czechoslovakia	7.8 (1970)	7.9 (1966)
Panama**	25.1 (1970)	21.3 (1967)	Finland	5.4 (1970)	5.6 (1965)
Puerto Rico**	15.6 (1970)	17.7 (1960)	Greece	11.2 (1971)	5.8 (1961)
SOUTH AMERICA			Norway	5.6 (1970)	4.8 (1960)
			Switzerland	3.7 (1970)	1.9 (1960)
Brazil**	12.6 (1970)	NR	Yugoslavia	17.1 (1971)	15.5 (1961)
Chile**	9.2 (1970)	36.0 (1960)	**OCEANIA**		
French Guiana	3.0 (1967)	5.6 (1961)	Australia	8.8 (1971)	8.2 (1966)
Peru**	16.1 (1961)	NR	Fiji	16.8 (1966)	NR
ASIA			New Zealand	9.7 (1966)	NR
			USSR		
Japan	2.2 (1970)	1.4 (1965)	USSR	10.5 (1970)	NR
Korea, Republic of	2.9 (1970)	8.3 (1960)			

*Selection based on availability of data to show percentage range within individual regions.
**Includes consensual marriages.
NR = Not Reported
SOURCE: Compiled from population statistics in *UN Demographic Yearbooks, 1969, 1971, 1973.*

Table 4—Medical Complications of Early Pregnancy and Childbirth, Selected Studies, 1970–1975

Author, Date, & Country	Ref. No.	Study Population	Medical Complications	
			Mothers	Infants
Akhter, 1974, Bangladesh	19	NR	anemia, preeclampsia and eclampsia, toxemia, cephalopelvic disproportion, difficult and obstructed labor	prematurity, low birthweight, and stillbirth
Akingba, 1974, Nigeria	20	hospital patients under 20	higher operative rates than for older women	higher stillbirth rates than for older women
Andrews, 1975, USA	23	hospital patients aged 20 or less	preeclampsia and eclampsia, premature rupture of membranes, uterine dystocia, infections, first and/or third trimester bleeding	prematurity, asphyxia neonatorum, infections, hemolytic diseases
Chibungo, 1974, Zambia	42	hospital patients under 19	eclampsia, anemia, difficult labor	prematurity and stillbirth
Delgado Urdaneta et al., 1972, Venezuela	60	hospital patients under 17	no increase in maternal complications	low birthweight
Park, 1974, Republic of Korea	174	hospital patients aged 11-19	anemia, toxemia, preeclampsia	prematurity
Pauls, 1974, Zaire	179	young hospital patients	anemia, preeclampsia and eclampsia	prematurity and low birthweight high among all deliveries
Purandare & Krishna, 1974, India	188	hospital patients aged 20 or less	anemia, toxemia, cephalopelvic disproportion, spontaneous abortion	prematurity
Rauh, 1971 & 1973, USA	191, 192	adolescent clinic patients	preeclampsia, severe anemia, third trimester bleeding	prematurity
Roopnarinesingh, 1970, Jamaica	199	mothers under 16	toxemia, hypertension, high operative rate	prematurity and low birthweight

NR = Not Reported

Unmarried Adolescents

With few exceptions, unmarried adolescents are excluded from official family planning programs and find it difficult to obtain safe and effective contraception or abortion services. Access to free or inexpensive contraceptive supplies from official agencies is especially limited in the developing countries of Asia which have traditionally emphasized premarital virginity. Among the countries having programs which distribute contraceptives only to married persons are Indonesia, Malaysia, the Philippines, the People's Republic of China, and Taiwan (37, 63, 125, 210, 218). In Taiwan, free, government-supplied contraceptives are available to engaged couples, but reportedly few take advantage of them (37). In these countries and in others where the private sector supplies most family planning services, unmarried adolescents may sometimes obtain contraceptive services, but only if they can afford them. Reluctance by physicians and midwives to prescribe contraception for unmarried minors also hinders provision of services.

Unmarried adolescents often have difficulty obtaining abortions, since many abortion laws—including those of Bulgaria, France, India, Turkey, and some states of the USA—require parental consent (8, 129). In Taiwan, where abortion is prohibited, an unmarried girl may obtain illegal termination of an unwanted pregnancy, but often at a higher cost than a married woman (210).

In a few countries, abortion is easier for young or unmarried women to obtain. For example, the Finnish Abortion Act allows abortion without a doctor's certificate for women under 17 and over 40. Also, abortion is permitted, regardless of the woman's age, for out-of-wedlock pregnancy. Minors do not need parental consent for abortion (249). In Hungary unmarried status is also a legal justification for abortion. In some countries, such as Greece, if an unmarried woman is not legally old enough to give valid consent to intercourse, she may obtain termination of an unwanted pregnancy (129).

Current Trend

At least in developed countries, the current trend is to allow adolescents greater access to contraception and abortion services, and to avoid setting age limits when establishing new laws related to family planning (205). For example, the 1974 French law eliminated parental consent requirements for contraception and provided service fee exemptions for minors (8). Statutes in more than half of the states in the USA now allow young people under 18 years of age to obtain contraception and abortion services without parental consent (178). The US Supreme Court recently ruled that minors do not need parental consent to obtain federally-funded contraceptive services. The Court is also expected to rule shortly on the constitutionality of laws requiring parental consent for abortions (201).

Table 5—Average Neonatal and Infant Mortality Rates for All Mothers and for Mothers Under 20 in Projects of Inter-American Investigation of Mortality in Childhood, 1973

Country, Project Location	Neonatal Mortality (Deaths in first 27 days of life per 1,000 live births)		Infant Mortality (Deaths in first year of life per 1,000 live births)	
	All Mothers	Mothers Under 20	All Mothers	Mothers Under 20
Argentina, Chaco Province	32.3	53.4	80.1	133.5
Brazil, Ribeirão Preto	28.2	36.2	52.6	72.1
Brazil, São Paulo	33.7	52.3	65.1	104.1
Canada, Sherbrooke	13.5	16.4	18.3	21.2
Chile, Santiago	26.6	31.7	55.2	79.3
El Salvador, San Salvador	29.6	40.7	88.4	116.6
Mexico, Monterrey	26.0	33.1	60.7	86.3
USA, San Francisco	12.7	17.2	17.5	26.2

SOURCE: Adapted from Puffer and Serrano (186).

Family planners in developing countries are also advocating reform. In 1974 the United Nations Fund for Population Activities (UNFPA) sponsored a Working Party on Youth and Population. Delegates from 15 developing and 5 developed nations recommended that:

> Every individual has the right to exercise a freedom of choice in his or her family life, based on adequate information and services. Youth has a particular need to be informed and to have access to services. Family planning services should be provided to all members of the community, married and unmarried, male or female, young and old. These services should be provided as far as possible free of charge through family health and welfare centers. (235)

A 1975 seminar in Colombia attended by Latin American lawyers concluded that:

- family planning information, education, and services should be made available to minors who have reached the age of puberty;
- persons providing such care should be given adequate legal protection (9).

In Pakistan a 1975 study of family planning recognized the potential for reducing fertility by postponing first births and recommended that special emphasis be placed on influencing younger people to delay marriage and first births (90).

CONTRACEPTIVE METHODS FOR ADOLESCENTS

Although there are little comparative data on contraceptive knowledge and use in developing countries, anecdotal material suggests that the percentage of sexually active adolescents using contraceptives is small (253). Three African studies reported by Sai confirm the extent of this ignorance and nonuse. In a Kenyan study, 53.8 percent of boys and 69.8 percent of girls aged 15-19 knew of no contraceptive method, despite a high rate of sexual activity. In Ghana, 41 percent of girls aged 11-18 knew nothing at all about birth control. In Sierra Leone, only 8 percent of girls aged 15-19 who were married or had children ever practiced family planning (206).

Pakistani women under 20 in both urban and rural areas scored significantly lower than older women on a test of family planning knowledge and practice (90). In a recent survey of young factory workers in Malaysia, only 30 percent knew of family planning methods, compared with over 90 percent in similar surveys of older populations (173).

In developed countries as well there is substantial ignorance about fertility control and lack of contraceptive use among adolescents. In 1966, Schofield found that only 20 percent of sexually active adolescent girls in Great Britain used contraception (207). In Finland, Widholm reported that in his study of unmarried girls under 18 years old who had had abortions, only 30 percent had made any attempt to prevent pregnancy (249).

In the 1971 national probability survey conducted by Zelnik and Kantner in the USA, 50 percent of sexually active adolescent girls reported that their last sexual act had been unprotected. The younger the respondent, the less likely it was that she used contraception (262). Other studies substantiate the lack of contraceptive knowledge and use among US adolescents (16, 30, 48, 49, 52, 57, 75, 138, 216).

Contraceptive Requirements

There is no contraceptive which is totally safe, completely effective, reversible, easy to obtain, simple and convenient to use, and which requires minimal planning and motivation. Planning and motivation regarding contraception are particularly important factors for most unmarried adolescents, if unplanned or infrequent sexual intercourse deters effective contraception (4, 35, 67, 103, 207, 263). Likewise, no single method of contraception exists which is best for all adolescents.

Periodic Abstinence

Periodic abstinence (rhythm) is reportedly practiced by many adolescents who wish to avoid unwanted pregnancy. However, unless it is carefully practiced, preferably using both the calendar and temperature methods, rhythm is an ineffective method of birth control due to the difficulty of predicting precisely when ovulation will occur in order to abstain from sex. For adolescent girls whose menstrual periods are often highly irregular and who frequently do not know when they are going to have intercourse, rhythm is especially unreliable. Zelnik and Kantner found that only half of sexually active adolescent girls in their national probability sample knew when the theoretically safe period occurred (263).

Withdrawal

For those who are sexually inexperienced, withdrawal (coitus interruptus) may be difficult to practice and an unreliable method of birth control. On the other hand, the 1975 WHO Consultation on Contraception in Adolescence cautioned that coitus interruptus should not be disregarded since it does not require preparation and is useful for unplanned intercourse (253).

Incomplete intercourse has been a traditional practice in many cultures and has sometimes proved to be a successful means of fertility control, as in Europe during the eighteenth and nineteenth centuries (135, 193). Withdrawal, however, must be timely and complete so that semen is not deposited too near the vagina. It is subject to failure if sperm is released before ejaculation (133).

Oral Contraception

For the sexually active adolescent girl without medical contraindications who is sufficiently motivated to adapt to daily pill-taking, orals are the most effective contraceptive method. However, young or unmarried girls who have

Table 6—Population Growth of Societies Which Differ in Marriage Age and Maternal Age at Reproduction, and in Number of Children per Family*

Elapsed Time (years)	Population Increase (people per generation)		
	Marriage Age: 15 Yrs. per Generation: 20 Children per Family: 6	Marriage Age: 20 Yrs. per Generation: 25 Children per Family: 6	Marriage Age: 25 Yrs. per Generation: 30 Children per Family: 4
00	2	2	2
25	6	6	4
50	18	18	8
75	54	54	16
100	162	162	32
125	486	486	64
150	1458	1458	128
175	4374	4374	256
200	13122	13122	512
	39366	39366	1024
	118098	118098	2048

*Later marriage lengthens the period between generations and slows population growth. If later marriage is accompanied by smaller family size preferences, the potential for reduced population growth is significantly increased.
SOURCE: Adapted from Ravenholt and Lyons (193).

irregular intercourse may use oral contraception ineffectively.

Some medical specialists have advised that oral contraceptives should not be a routine method of contraception for young girls who have not established a regular menstrual pattern for 1-2 years, due to the risk of amenorrhea after discontinuing the pill (11, 62, 85, 94, 114, 123, 137, 139, 140, 150, 190, 192, 217, 230, 249, 253, 255). In individual cases, though, the known risks of unwanted pregnancy must be weighed against the potential risks of taking the pill. Certain physicians have suggested that less effective orals such as the minipill, which may not prevent ovulation, and the sequentials, which may be associated with fewer complications in young women, should be prescribed for adolescent girls (6, 88, 221). The sequential preparations, however, have been withdrawn from the US market due to concern that they may be less safe and reliable than combined oral contraceptives (13).

For unmarried girls, seeking oral contraceptives may involve an admission of interest in sexual activity which could create psychological discomfort if she does not want that fact known. Sai has noted the impossibility of keeping pill use secret in an African household due to lack of privacy (206).

The major problem associated with oral contraceptive use by adolescents has been inconsistent use partially related to the inconvenience of daily pill-taking. A number of investigators have found that adolescents, especially unmarried girls having infrequent sexual activity, are often unable or unwilling to use oral medication regularly for long periods of time (70, 80, 82, 95, 97, 108, 139, 139, 144, 189, 190, 191).

IUDs

Intrauterine devices (IUDs), particularly smaller devices such as the Copper T, the Cu-7, and the T-shaped progesterone releasing IUD, can be effective contraceptive methods for many adolescent girls. Many family planners recommend the use of these IUDs especially if maintaining motivation is a problem (67, 82, 108, 138, 139, 144, 153, 154, 189, 190, 191, 198, 259). Once inserted, an IUD requires no further motivation or action on the part of the acceptor other than checking to be sure it is still in place and returning for routine medical examinations.

Several studies of adolescent girls report a lower pregnancy rate with IUDs than with orals, due to inconsistency in taking pills. As with oral contraceptives, obtaining an IUD involves planning for sex and may, therefore, be unacceptable to some unmarried adolescents.

Traditionally the IUD has been considered more appropriate for the older woman who has given birth than for the young nulligravida who has not been pregnant. Higher rates of expulsion and pain following insertion have been reported in young women who have never been pregnant. Newer devices such as the Copper T, the Cu-7, and the Progesterone T, have, however, been used successfully in nulligravid adolescents with low expulsion rates and fewer removals for pain or bleeding (15, 109, 123, 134, 140, 146, 152, 153, 154, 190, 203, 217, 252). The copper IUDs, unlike conventional plastic devices, must be replaced every two years due to the dissolution of the copper, and the progesterone devices must be replaced annually (154). Newer IUDs with an increased surface area of copper, such as the T Cu 220 C, are currently being tested to lengthen the interval necessary for periodic replacement (53, 154).

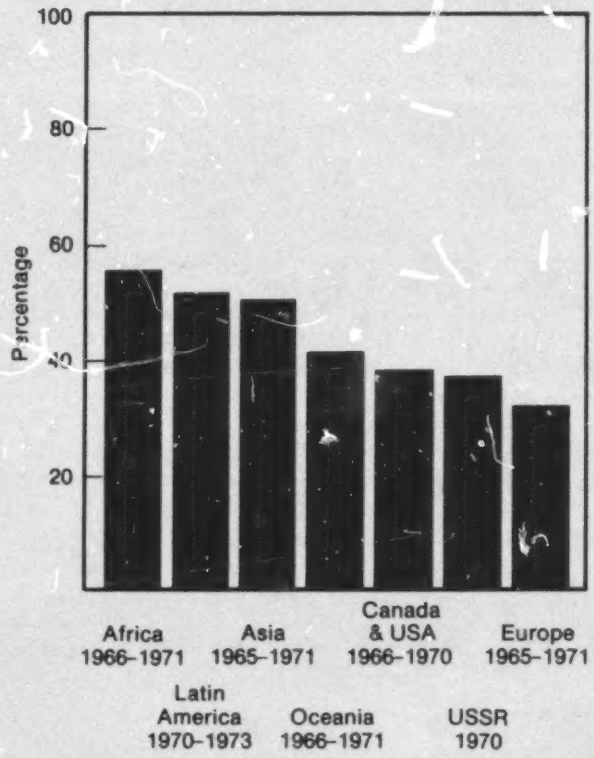

Fig. 5. Percentage of total population under 20, by region.
SOURCE: *UN Demographic Yearbook, 1973.*

Diaphragms

Diaphragms used with spermicidal agents are effective methods of contraception, but are difficult for many adolescent girls to use. They require planning and preparation for each intercourse, skill in insertion, and facilities for washing and storing the diaphragm. Some girls may also find it disagreeable to insert and remove the diaphragm.

The diaphragm has not been widely used in programs for adolescents and is not available in many developing countries. Some studies have found that diaphragm use by young girls is associated with higher failure rates than those for older women (see **Population Reports**, H-4, January 1976) (89, 224). A recent US study, however, reported high contraceptive effectiveness and continuation rates for young women using diaphragms, and some family planners have recommended wider use of diaphragms in adolescent programs (127, 133).

Postcoital Contraception

Postcoital contraception may be useful in emergency situations, such as rape, and for young girls who have irregular intercourse (184, 217, 251). Treatment—with hormones or IUD insertion—is necessary soon after intercourse. Hormonal preparations are sometimes associated with unpleasant side effects and involve potential risk to a fetus if the woman is already pregnant. Postcoital contraception may be difficult to obtain in rural areas lacking medical facilities, and is not widely available in most countries. (See **Population Reports**, J-9, January 1976.)

Condoms

Condoms are widely used by young people to prevent pregnancy and are especially suitable for unmarried adolescents. If a couple has intercourse only irregularly, it may be more convenient, less expensive, and safer for the boy to use a condom than for the girl to use orals or an IUD. Condoms alone significantly reduce the risk of unwanted pregnancy. When used with spermicides, their effectiveness is further enhanced.

In many countries, condoms are the method most readily available to adolescents, particularly unmarried ones. They are especially valuable in many developing countries where prescription contraceptives are often difficult to obtain. Although some instructions are necessary, condoms are simple to use and require a minimum of planning. Therefore, they may be suitable for adolescents who find it objectionable or difficult to plan sexual activity (91, 123, 135, 230).

A unique feature of condom use is its involvement of the male in making conception control a responsibility of both partners. A pilot program in the USA distributed free condoms to adolescent boys through barber shops, pool halls, grocery stores, and restaurants. Results indicated that young men were increasingly willing to share in family planning when given the opportunity and information (24). Recent efforts to market condoms in a variety of colors, shapes, and contours, such as the Nirodh distribution program in India, may lead to their greater acceptance in family planning programs for adolescents.

ABORTION FOR ADOLESCENTS

The number and proportion of total abortions performed on adolescent girls have increased in most countries (see Table 8) (103, 225, 255). Adolescent abortions equal about one-fourth of the total number of abortions performed in England, Wales, Scotland, and Sweden, and about one-third in Canada and the USA (225). More than one-third of single patients treated for abortion at a Bangkok hospital from 1968 to 1974 were under 20 (122), while a five-year review of women treated for abortion at a Nigerian hospital found that over 90 percent were single, mainly adolescent

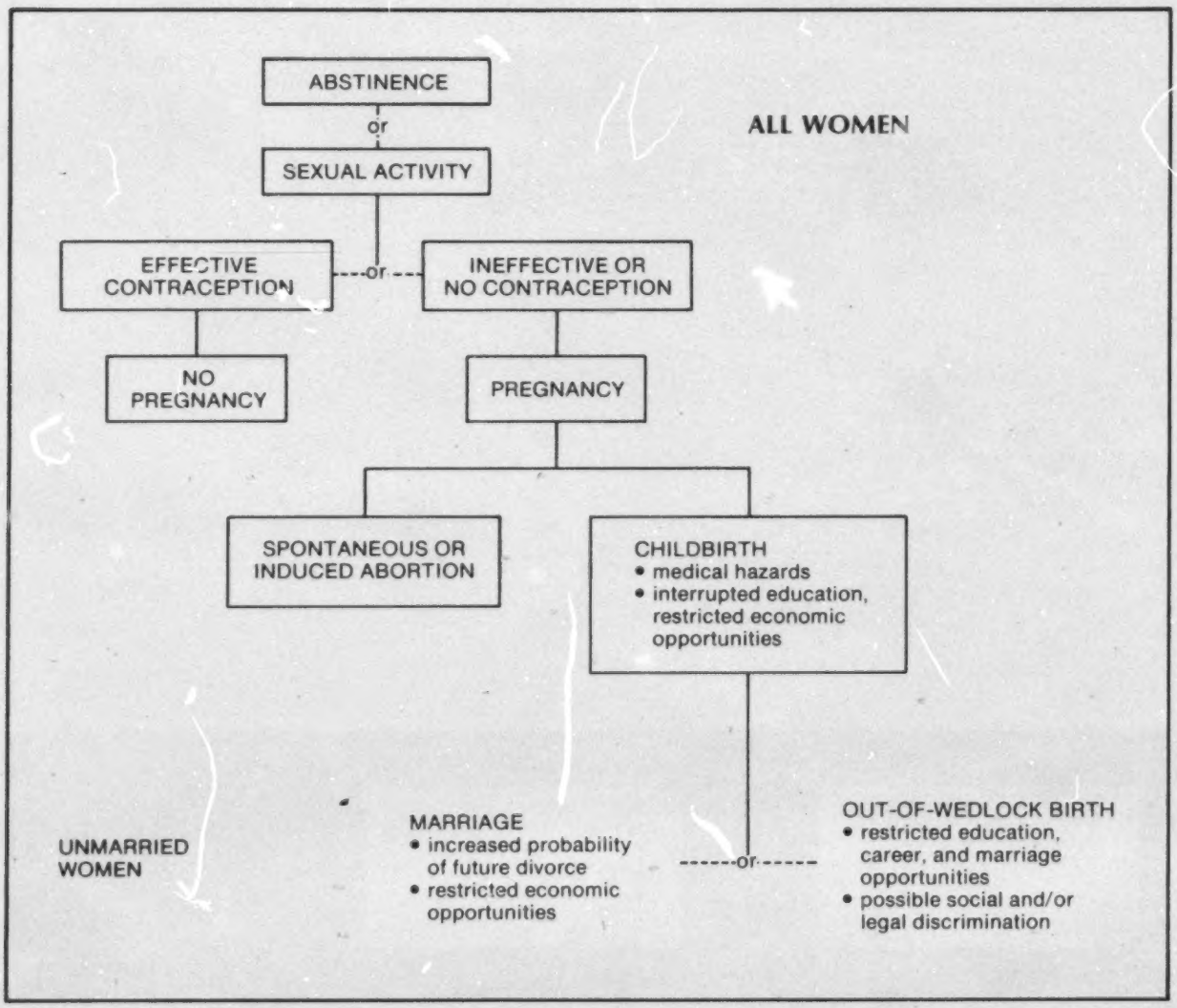

Fig. 6. Some choices and possible consequences for adolescent women.

girls (20). Illegal abortion is reportedly common in Latin America but statistics—especially data on young women—are difficult to obtain for cultural and legal reasons (171).

Medical and psychological consequences of abortion appear to be similar for young and older women. Health complications are related primarily to the procedures required for pregnancy termination (146). Psychological consequences are determined primarily by the circumstances affecting the availability of abortion. According to Lieberman, where illegal, immoral, unsafe, or otherwise stigmatized, abortion may have a negative impact; where safe, legal, moral, and benignly offered, it is more likely to be neutral or even positive (131). The abortion experience may encourage some women to accept more effective contraception (50, 164).

Adolescents have a tendency to present themselves for abortion when pregnancy is advanced and requires relatively more complicated termination procedures (27, 146, 150, 203, 227). In an Indian study, 81 percent of girls aged 18 or under and 62 percent of girls aged 19-20 who requested abortion did so during the second trimester (188). In a Korean study, more than half of the pregnant adolescents who sought abortion did not see a doctor until the second trimester (174). Thirty percent of women aged 15-19 and 43 percent aged 15 or under in a New York City study did not seek abortion until 13 weeks or more of gestation (94). Tietze and Murstein attribute this strong inverse association of patient age and gestation period to a combination of factors:

- inexperience of the young in recognizing pregnancy;
- unwillingness to accept the situation and seek prompt treatment;
- ignorance concerning sources of advice and help;
- hesitation to confide in adults and obtain guidance;
- lack of economic resources to pay for abortion services;
- laws that do not permit minors to obtain medical services without parental consent (225).

SEX EDUCATION

Concern with the adverse health, demographic and social consequences of adolescent pregnancy and childbearing has prompted recommendations that educational programs:

- encourage the development of responsible attitudes toward sexual behavior;
- teach reproductive physiology;
- inform adolescents of the risks of early pregnancy;
- strengthen their motivation to use contraception;
- provide adolescents with information on the availability of contraception and abortion services.

Table 7—Percentage in Selected Countries of Married Women of Reproductive Age Who Are Under 20 (1962-1973) and Are Contraceptive Acceptors (1971-1974)

REGION Country	Year	Percentage Under 20 of All Married Women of Reproductive Age*	Year	Percentage Under 20 of Married Acceptors		
				IUDs	Orals	All Methods
AFRICA						
Ghana		NR	1974	2.0	5.0	NR
Kenya	1962	10.9	1971	NR	10.1	NR
Morocco	1971	9.4	1969-1971	2.8	3.7	3.7
Nigeria		NR	1973	NR	NR	2.6
Tunisia	1966	5.1	1972	1.1	2.7	NR
ASIA						
Hong Kong	1971	1.1	1972-1974	1.0	8.0	5.1
Indonesia	1964-1965	7.1	1974	5.1	7.9	7.1
Iran	1966	12.1	1973-1974	15.0	12.1	NR
Malaysia	1973	8.9**	1973	1.9	8.4	7.5
Nepal	1971	15.9	1973-1974	2.1	4.1	NR
Philippines	1960	5.3†	1973	3.9	5.0	4.4
Singapore	1970	2.2	1974	NR	12.0	9.4
Sri Lanka	1963	5.0‡	1973-1974	4.3	NR	2.5
Taiwan		NR	1973	1.2	4.1	NR
Thailand	1970	6.9	1974	4.8	7.5	NR
Turkey	1970	7.2	1973	5.1	NR	NR
LATIN AMERICA						
Colombia	1964	6.7‡	1974	11.4	14.6	12.5
Costa Rica	1063	6.4	1974	12.5	21.6	18.3
Dominican Republic	1970	9.8‡	1973	10.0	18.5	NR
Ecuador	1962	5.8‡	1973	8.8	12.6	NR
El Salvador	1961	8.5†‡	1971-1972	NR	NR	9.2
Jamaica	1960	4.1†‡	1974	NR	14.6	23.0
Mexico	1970	8.1‡	1973	7.9	8.0	NR

* Except where noted, married women of reproductive age includes all under 50 years old.
**Data for East Sabah and Sarawak only.
† Women of reproductive age includes all under 45 years old.
‡ Includes consensual marriages.
NR = Not Reported.
SOURCE: Acceptor data adapted from Nortman (168); population data from *UN Demographic Yearbooks, 1968, 1971, 1972, 1973.*

At present, however, few countries provide sex education for young people and only one, Sweden, has had long-term experience with it. The effects of the Swedish program on sexual behavior and use of fertility control are not clear, and its applicability to other cultures with varied traditions and values is questionable.

Several major obstacles to in-school sex education programs are noted in an international study of population and sexuality education:

- taboos and customary laws;
- religious resistance in Moslem, Buddhist, and some Catholic countries;
- parental fears of promoting promiscuity;
- resistance by school authorities;
- difficulties in recruiting and training teachers (116).

Despite these obstacles, both developed and developing countries are beginning to enter the field of sex education. In the Philippines, for example, a Population Education Program was initiated in 1972. At the high school level, sex education and contraception are included in the curriculum. Other countries, such as Kenya, Ghana, Mexico, Costa Rica, Colombia, and Chile, are experimenting with in-school sex education. A trend is evident toward greater acceptance of such programs (116).

Films Available

Two films recently produced in Canada are aimed at adolescents to help them understand sexual behavior and its consequences.

"It Couldn't Happen to Me" is a 16 mm, 28-minute color sound film dealing with family planning for adolescents. It is available in English only. Inquiries should be addressed to:

Perennial Education, Inc.
1825 Willow Road
Northfield, Illinois 60093
USA

or

Association Films
333 Adelaide St. West
Toronto, Ont. M5VIR6
Canada

"Pete and Julie" is a 13-minute, slide/sound presentation which examines dating and relationships among young people. Currently available in French, it will soon be distributed in English and Spanish. Inquiries concerning the French or English versions should be addressed to:

Adimec, Inc.
5275 Berri St.
Montreal 21, P.Q.
Canada

The Spanish film will be available from:
Parabola, S.A.
Serano Suner 8
Madrid 13
Spain

Table 8—Trends in Percentage of Total Legal Abortions to Women Under 20 in Selected Countries, 1968-1973

REGION Country	Percent of Total Abortions to Women Under 20		
	Latest Data % (year)	Previous Data % (year)	% (year)
AFRICA			
Tunisia	1.8 (1970)	NR	NR
ASIA			
Japan	2.0 (1970)	NR	NR
Singapore	3.5 (1973)	2.7 (1972)	2.9 (1971)
EUROPE			
Czechoslovakia	8.7 (1972)	8.9 (1971)	8.3 (1970)
Denmark	15.2 (1972-73)	14.2 (1971-72)	16.8 (1970-71)
England & Wales	24.0 (1973)	22.7 (1972)	21.6 (1971)
Finland	15.9 (1973)	11.7 (1970)	NR
Hungary	10.0 (1973)	14.1 (1972)	8.9 (1971)
Scotland	24.7 (1973)	22.1 (1972)	19.5 (1971)
Sweden	23.5 (1973)	23.5 (1972)	22.3 (1970)
Yugoslavia	5.2 (1973)	NR	NR
NORTH AMERICA			
USA	31.5 (1973)	32.0 (1972)	29.1 (1971)
OCEANIA			
Australia	26.3 (1971)	15.0 (1970)	NR
New Zealand	16.6 (1970)	NR	NR

NR = Not Reported
SOURCES: Above data are the only figures reported in *UN Demographic Yearbooks, 1971, 1972, 1973, 1974*; US data from US Center for Disease Control (239, 240, 241).

Reaching the nonschool population is another problem, particularly in developing countries where many adolescents leave school at early ages. Only recently are governments and private family planning organizations beginning to recognize the importance of developing programs that will reach this large segment of the population. For example, nonschool education projects include those of the Indonesian Planned Parenthood Association, which directs an educational project aimed at illiterate agricultural laborers under 20 (104), and the Federation of Family Planning Associations of Malaysia, which is sponsoring a Young Workers Community Education Project to provide family planning education for young factory workers (29). The Family Planning Organization of the Philippines' Youth Program is aimed at 5.2 million young people, aged 14-25, who are unemployed and/or have dropped out of school (104).

In addition, numerous organizations are currently supporting research, training, and pilot programs which include nonschool sex education, often in the context of broader development programs, but it is beyond the scope of this report to examine them. It appears, however, that more and more organizations are attempting to implement the recommendation of a 1974 Symposium on Law and Population in Tunis, sponsored by the UNFPA, that:

> Governments should not only repeal present legal restrictions on the dissemination of family planning information, but also take positive steps to provide it in a manner consistent with their national culture . . . it being understood that such information includes material on human reproduction . . . family planning techniques, and population awareness. (236)

Summary of Selected Recommendations of the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974

1. Epidemiological studies should be developed to identify the characteristics of the problem of adolescent pregnancy and abortion, particularly in countries where existing record systems do not include the relevant data.

2. Research should be undertaken to describe the changing nature of adolescent sexual behavior and particularly the special vulnerability of this age group to the risk of unwanted pregnancy and abortion.

3. Information should be made available concerning the social and economic implications—for the individual and for society—of unwanted adolescent pregnancy.

4. Policymakers should be encouraged to incorporate appropriate programs for adolescents within national family planning programs.

5. Detailed research proposals should be formulated to examine:

- sources of adolescent knowledge and attitudes about sex, contraception, pregnancy, and abortion;
- sex education training available to family life educators;
- different programs of family life education and their appropriateness in different sociocultural contexts;
- the extent of choice and constraint in adolescent decision making on matters relating to sex, contraception, pregnancy, abortion, and adoption in different sociocultural contexts.

SOURCE: Pregnancy and Abortion in Adolescence (255)

Upcoming Conference

Early pregnancy and childbirth will be discussed at the First Inter-Hemispheric Conference on Adolescent Fertility, August 31-September 4, 1976, at the Airlie Foundation, Airlie, Virginia, USA. Representatives from approximately 50 developing countries will meet to explore the magnitude of adolescent fertility, develop data to define it more precisely, and recommend policies and programs on a country-by-country basis for solving the problems associated with it. Further information may be obtained by contacting Rosemary Guest, Airlie Foundation, Airlie, Virginia 22186.

BIBLIOGRAPHY

1. ANONYMOUS. Advances in fertility control. WHO Chronicle 26: 12-20. 1972.

2. ANONYMOUS. African study has some surprises. People 3(1): 44. 1976.

3. ANONYMOUS. Age at first birth, race, key to child expectations, poor maternal health to postpartum sterilization. Family Planning Perspectives 7(6): 270-272. November-December 1975.

4. ANONYMOUS. Easing pressure to achieve popularity may help prevent teenage pregnancy. Ob. Gyn. News 11(4): 24. February 15, 1976.

5. ANONYMOUS. Girls under 18 can consent to birth control services in two-fifths of the States. Family Planning Digest 1(6): 1-4. November 1972.

6. ANONYMOUS. Great care advised in giving the pill to adolescent girls. Hospital Tribune. July 24, 1972. p. 5.

7. ANONYMOUS. Herpesvirus and cancer of uterine cervix. British Medical Journal 1(5011): 671. March 20, 1976.

8. ANONYMOUS. Laws and policies in Europe and Latin America favour family planning and population studies. International Family Planning Digest 1(1): 3-4. February 1975.

9. ANONYMOUS. Legal status of women in Latin America. IPPF/WHR News Service 3(6): 15. December 1975.

10. ANONYMOUS. Link high infant, mother death risk to young or old maternal age, close childspacing, poor nutrition. International Family Planning Digest 1(3): 13-14. September 1975.

11. ANONYMOUS. More pre-teens want birth control advice. Intercom 4(1): 4-5. January 1976.

12. ANONYMOUS. Review of state abortion laws enacted since January 1973. Family Planning/Population Reporter 4(6): 108-113. December 1975.

13. ANONYMOUS. Sequential birth control pills discontinued. FDA Consumer 10(1): 25. April 1976.

14. ANONYMOUS. Sexual activity of teens taking OCs remains same as before use. Ob. Gyn. News 11(2): 32. January 15, 1976.

15. ANONYMOUS. Sex counseling of girl should include condom. Ob. Gyn. News 9(13): 24. July 1, 1974.

16. ANONYMOUS. Sex education, contraception are urgent for teens; premarital pregnancy, illegitimate births increasing. International Family Planning Digest 1(4): 4-5. December 1975.

17. ANONYMOUS. Status of women. People 2(3): 38. 1975.

18. ANONYMOUS. Supreme Court to decide if minors may consent to abortion, declares Roe and Doe don't protect nonphysicians, upholds jobless pay during pregnancy. Family Planning/Population Reporter 4(6): 105-106. December 1975.

19. AKHTER, N. Pregnancy and abortion in adolescence. Paper presented at the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 14 p.

20. AKINGBA, J. B. Some aspects of pregnancy and abortion in some Nigerian adolescents. Paper presented at the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 14 p.

21. AMPOFO, D. A. Epidemiology of abortion in selected African countries. Paper presented at the International Planned Parenthood Conference on the Medical and Social Aspects of Abortion in Africa, Accra, Ghana, December 12-18, 1973. 22 p.

22. ANDERSON, G. D. Comprehensive management of the pregnant teenager. Contemporary Ob/Gyn 7(2): 75-80. February 1976.

23. ANDREWS, B. F. Problems of teenage mothers, their infants, and influence of family planning. Pediatric Research 9(4): 257. April 1975.

24. ARNOLD, C. B. and COGSWELL, B. E. A condom distribution program for adolescents: the findings of a feasibility study. American Journal of Public Health 61(4): 749-750. April 1971.

25. ASAYAMA, S. Adolescent sex development and adult sex behavior in Japan. Tokyo, Japanese Association for Sex Education, January 1974. 15 p.

26. AWON, M. P. Family planning programmes in Trinidad and Tobago. In: International Labour Office [ILO]. Caribbean regional employer's seminar on population and family welfare planning, Port-of-Spain, April 10-14, 1974. Geneva, ILO, 1975. p. 154-160.

27. BARGLOW, P. and WEINSTEIN, S. Therapeutic abortion during adolescence: psychiatric observations. Journal of Youth and Adolescence 2(4): 331-342. 1973.

28. BELAISCH, J. La contraception chez la nullipare. [Contraception for the nullipara.] [FR] Contraception, Fertilité, Sexualité 2(1): 65-72. January 1974.

29. BLAKE, M. L. Towards a better deal for the young worker. Kuala Lumpur, Federation of Family Planning Associations, May 1975. (Research Studies No. 1) 96 p.

30. BOYCE, J. and BENOIT, C. Adolescent pregnancy. New York State Journal of Medicine 75: 872-874. May 1975.

31. BRUNSWICK, A. F. Adolescent health, sex and fertility. American Journal of Public Health 61(4): 711-729. April 1971.

32. BUCHANAN, R. Effects of childbearing on maternal health. Population Reports, Series J, Number 8. Washington, D.C., George Washington University Medical Center, Population Information Program, November 1975. 15 p.

33. BUSFIELD, J. Age at marriage and family size: social causation and social selection hypotheses. Journal of Biosocial Science 4: 117-134. 1972.

34. CAMPBELL, A. A. Role of family planning in the reduction of poverty. Journal of Marriage and the Family 30: 236-245. May 1968.

35. CAMBALLO, M. Social factors in adolescent use of contraception. Paper presented at the World Health Organization Consultation on Contraception in Adolescence, Geneva, September 8-10, 1975. 5 p.

36. CASTELLANOS, R., AGUERO, O., FRANCO, G., and ALLER, J. Estudio de la gestante adolescente. [Study of pregnant adolescents.] [SP] Revista de Obstetricia y Ginecologia de Venezuela 30(2): 197-204. June 1970.

37. CERNADA, E. C. [Family planning for adolescents in Taiwan] Personal communication to W. P. Hunt, 2nd, March 12, 1976. 2 p.

38. CHAKRABORTY, R., ROY, M., and DAS, S. R. Proportion of low birth weight infants in an Indian population and its relationship with maternal age and parity. Human Heredity 25(2): 73-79. 1975.

39. CHANDRASEKHAR, S. Population policy perspectives in communist China. Population Review 19(1 and 2): 58-64. January-December 1975.

40. CHATTERJI, S. M. M. How to prevent motherhood before marriage. In: Indian Chamber of Commerce. New approach to family planning: proceedings of the Industrial Conference on Family Planning, Calcutta, January 1966. Calcutta, 1966. p. 104-107.

41. CHIAZZE, L., Jr., BRAYER, F. T., MACISCO, J. J., Jr., PARKER, M. P., and DUFFY, B. J. Length and variability of the human menstrual cycle. Journal of the American Medical Association 203(6): 377-380. February 5, 1968.

42. CHIBUNGO, M. M. Pregnancy and abortion in adolescence as it exists in Zambia. Paper presented at the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 8 p.

43. CHILIVUMBO, A. Cultural consequences of population change in Malawi. In: Smithsonian Institution. Center for the Study of Man. The cultural consequences of population change. Report on a seminar held in Bucharest, Romania, August 14-17, 1974. Washington, D.C., April 1975. 41 p.

44. CHRISTENSEN, H. T. and GREGG, C. F. Changing sex norms in America and Scandinavia. In: Reiss, I. L., ed. Readings on the family system. New York, Holt, Rinehart and Winston, 1972. p. 199-205.

45. COALE, A. J. The demographic transition reconsidered. Paper presented at the International Population Conference, Liege, 1973. Liege, International Union for the Scientific Study of Population, 1973. 20 p.

46. COALE, A. J. History of the human population. Scientific American 231(3): 41-51. September 1974.

47. COBLINER, W. G. Evaluating teenage abortion requests. Ortho Panel No. 19, 1974. p. 2-5.

48. COBLINER, W. G. Pregnancy in the single adolescent girl: the role of cognitive functions. Journal of Youth and Adolescence 3(1): 17-29. 1974.

49. COBLINER, W. G., SCHULMAN, H., and ROMNEY, S. L. The termination of adolescent out-of-wedlock pregnancies and the prospects for their primary prevention. American Journal of Obstetrics and Gynecology 118(3): 432-444. February 1, 1973.

50. COHN, H. D. and LIEBERMAN, E. J. Family planning and health: congruent objectives of Malthus and Spock. American Journal of Public Health 64(3): 225-229. March 1974.

51. COLE, B. B. and BLUM, M. The out-of-wedlock pregnancy. Obstetrics and Gynecology 40(6): 807-812. December 1972.

52. COLE, J. B., BEIGHTON, F. C. L., and JONES, I. W. Contraceptive practice and unplanned pregnancy among single university students. British Medical Journal 4(5990): 217-219. October 25, 1975.

53. COOPER, D. L., MILLEN, A. K., and MISHELL, D. R. Copper T220C, a new long-acting copper intrauterine contraceptive device. American Journal of Obstetrics and Gynecology 124(2): 121-124. January 15, 1976.

54. COREY, M. U.S. organized family planning programs in FY 1974. Family Planning Perspectives 7(3): 98-103. May-June 1975.

55. CUTRIGHT, P. Illegitimacy in the United States: 1920-1968. In: Westoff, C. F. and Parke, R., Jr., eds. Demographic and social aspects of population growth. Washington, D.C., U.S. Government Printing Office, 1972. (Commission on Population Growth and the American Future, Research Reports, Volume 1) p. 377-438.

56. CUTRIGHT, P. The teenage sexual revolution and the myth of an abstinent past. Family Planning Perspectives 4(1): 24-31. January 1972.

57. CVETKOVICH, G., GROTE, B., BJORSETH, A., and SARKISSIAN, J. On the psychology of adolescents' use of contraceptives. Journal of Sex Research 11(3): 256-270. August 1975.

58. DARROW, W. W. Attitudes toward condom use and the acceptance of venereal disease prophylactics. In: Redford, M. H., Duncan, G. W., and Prager, D. J., eds. The condom: increasing utilization in the United States. San Francisco, San Francisco Press, 1974. p. 173-186.

59. DAVID, H. P. Unwanted pregnancies: costs and alternatives. In: Westoff, C. F. and Parke, R., Jr., eds. Demographic and social aspects of population growth. Washington, D.C., U.S. Government Printing Office, 1972. (Commission on Population Growth and the American Future, Research Reports, Volume 1) p. 440-470.

60. DELGADO URDANETA, A., MEZA, C. A., and LINARES, L. D. Maternidad precoz en el hospital Central de Valera. [Precocious maternity in the Valera Central Hospital.] [SP] Archivos Venezolanos de Puericultura y Pediatria 35(2): 11-30. April-June 1972.

61. DEVADAS, R. P. Nutrition and growth of Indian girls. Swasth Hind 19(11): 342-347. November 1975.

62. DI PALMA, J. R. The pill, pro and con. RN 34: 61-70. January 1971.

63. DJERASSI, C. Fertility limitation through contraceptive steroids in the People's Republic of China. Family Planning 23(1): 16-24. April 1, 74.

64. DOTT, A. B. and FORT, A. T. The effect of maternal and demographic factors on infant mortality rates. American Journal of Obstetrics and Gynecology 123(8): 847-853. December 15, 1975.

65. DUBEY, D.C. and BARDHAN, A. Social and political considerations for family planning programmes. New Delhi, National Institute of Family Planning, August 1971. (NIFP Technical Paper No. 15) 19 p.

66. DUZA, M. B. Cultural consequences of population change in Bangladesh. In: Smithsonian Institution. Center for the Study of Man. Cultural consequences of population change. Report on a seminar held in Bucharest, Romania, August 14-17, 1974. Washington, D.C. April 1975. 98 p.

67. EDWARDS, L. E., MCCREARY, M. K., and HAKANSON, E. Y. Comparison of intrauterine contraceptive devices and oral contraceptives in the nullipara. American Journal of Obstetrics and Gynecology 120(4): 470-475. October 15, 1974.

68. EFIONG, E. I. and BANJOKO, M. O. Obstetric performance of Nigerian primigravidae aged 18 and under. British Journal of Obstetrics and Gynaecology 82(3): 228-233. March 1975.

69. ENGSTROM, L. Teenage pregnancy—remarks on its magnitude and consequences in developing countries. Paper presented at the World Health Organization Consultation on Contraception in Adolescence, Geneva, September 8-10, 1975. 9 p.

70. EWER, P. A. and GIBBS, J. O. Correlates of oral contraception continuation. HSMHA Health Reports 86(5): 449-456. May 1971.

71. FARLEY, J. U. and TOKARSKI, S. S. Legal restrictions on the distribution of contraceptives in the developing nations: some suggestions for determining priorities and estimating impact of change. Columbia Human Rights Law Review 6(2): 415-448. Fall-Winter 1974-1975.

72. FARMAN-FARMAIAN, S. Early marriage and pregnancy in traditional Islamic society. Draper World Population Fund Report No. 1, Autumn 1975. p. 6-9.

73. FIEDLER, D. E. The adolescent—the gynecologist's dilemma. [1973] 5 p. (Unpublished)

74. FINCH, B. E. and GREEN, H. Contraception through the ages. Springfield, Illinois, Charles C Thomas, 1963. 224 p.

75. FINKEL, M. L. and FINKEL, D. J. Sexual and contraceptive knowledge, attitudes and behavior of male adolescents. Family Planning Perspectives 7(6): 256-260. November-December 1975.

76. FINKELSTEIN, R. Program for the sexually active teenager. Pediatric Clinics of North America 19(3): 791-794. August 1972.

77. FINKELSTEIN, R. and SEITCHIK, J. Primary prevention of post-pubertal pregnancy. In: Sobrero, A. J. and Lewit S., eds. Advances in Planned Parenthood, Volume 4. (Proceedings of the Sixth Annual Meeting of the American Association of Planned Parenthood Physicians, San Antonio, Texas, April 16-17, 1968) Amsterdam, Excerpta Medica, 1969. p. 43-46.

78. FRISCH, R. E. and MCARTHUR, J. W. Menstrual cycles: fatness as a determinant of minimum weight for height necessary for their maintenance or onset. Science 185(4155): 949-951. September 13, 1974.

79. FURSTENBERG, F. F. Birth control experience among pregnant adolescents: the process of unplanned parenthood. Social Problems 19: 192-203. 1971.

80. FURSTENBERG, F. F. Preventing unwanted pregnancies among adolescents. Journal of Health and Social Behavior 12: 340-347. December 1971.

81. FURSTENBERG, F., GORDIS, L., and MARKOWITZ, M. Birth control knowledge and attitudes among unmarried pregnant adolescents: a preliminary report. Journal of Marriage and the Family 31: 34-42. February 1969.

82. FURSTENBERG, F. F., MASNICK, G. S., and RICKETTS, S. A. How can family planning programs delay repeat teenage pregnancies? Family Planning Perspectives 4(3): 54-60. July 1972.

83. GABRIELSON, I. W., GOLDSMITH, S., POTTS, L., MATHEWS, V., and GABRIELSON, M. O. Adolescent attitudes toward abortion: effects on contraceptive practice. American Journal of Public Health 61(4): 730-738. April 1971.

84. GILBERT, R. A contraceptive program for teenagers: the San Francisco experience. Health Educators At Work 23: 73-78. November 1972.

85. GOLDSMITH, S. San Francisco's teen clinic: meeting the sex education and birth control needs of the sexually active schoolgirl. Family Planning Perspectives 1(2): 23-26. October 1969.

86. GOLDSMITH, S., GABRIELSON, M. O., GABRIELSON, I., MATHEWS, V., and POTTS, L. Teenagers, sex and contraception. Family Planning Perspectives 4(1): 32-39. January 1972.

87. GORDIS, L., FINKELSTEIN, R., FASSETT, J. D., and WRIGHT, B. Evaluation of a program for preventing adolescent pregnancy. New England Journal of Medicine 282(19): 1078-1081. May 7, 1970.

88. GUTTMACHER, A. F. The new pill. Planned Parenthood-World Population [President's Letter] No. 65. February 15, 1973. p. 4.

89. HALL, R. E. Continuation and pregnancy rates with four contraceptive methods. American Journal of Obstetrics and Gynecology 116(5): 671-681. July 1, 1973.

90. HARDEE, J. G. and AZHAR, M. Change and differentials in women's knowledge of, attitude towards and practice of family planning in Pakistan during the 1960s. Pakistan Development Review 14(3): 353-369. Autumn 1975.

91. HARVEY, P. D. Condoms—a new look. Family Planning Perspectives 4(4): 21-30. October 1972.

92. HATCHER, S. L. M. The adolescent experience of pregnancy and abortion: a developmental analysis. Journal of Youth and Adolescence 2(1): 53-102. 1973.

93. HATE, C. A. Social reform movements and legislation for women in India. In: Central Institute of Research and Training in Public Cooperation. Family planning and status of women in India (Report of a seminar, New Delhi, August 10-14, 1969). New Delhi, 1972. p. 40-48.

94. HAUSKNECHT, R. U. The termination of pregnancy in adolescent women. Pediatric Clinics of North America 19(3): 803-811. August 1972.

95. HELD, B., BURGESS, P., and PRYSTOWSKY, H. Research in the delivery of female health care: effort and effectiveness. American Journal of Obstetrics and Gynecology 110(6): 803-806. July 15, 1971.

96. HELD, B. and PRYSTOWSKY, H. Research in the delivery of health care: changing reproductive trends. American Journal of Obstetrics and Gynecology 109(1): 32-35. January 1, 1971.

97. HENDERSON, F. and CROCKER, C. L. A profile of adolescents in a family planning center. Journal of the National Medical Association 66(3): 239-241. May 1974.

98. HINMAN, A. R., STROH, G., GESCHE, M. C., and WHITAKER, K. F. Medical consequences of teenage sexuality. New York State Journal of Medicine 75(9): 1439-1442. August 1975.

99. HOPPER, R. F. Abortion in Korea: before and after the law. Journal of Family Planning Studies 2: 192-201. June 1975.

100. HOUSE, E. A. and GOLDSMITH, S. Planned parenthood services for the young teenager. Family Planning Perspectives 4(2): 27-31. April 1972.

101. HUNGARY. LAWS, STATUTES, ETC. Instructions No. 13 of 1974 of the Minister of Health to amend Instructions No. 23 of 1973 of the Minister of Health on the prescribing and supply of hormonal contraceptives. International Digest of Health Legislation 26(2): 363. 1975.

102. IHROMI, T. O., CHANDAR, N., MANNING, C., RAHARDJO, J., and SUHARSO, M. S. Population and culture in Indonesia. In: Smithsonian Institution. Center for the Study of Man. Cultural consequences of population change. Report on a seminar held in Bucharest, Romania, August 14-17, 1974. Washington, D.C., April 1975. 28 p.

103. ILLSLEY, R. and TAYLOR, R. Sociological aspects of teenage pregnancy. Paper presented at the World Health Organization [WHO] Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 71 p.

104. INTERNATIONAL PLANNED PARENTHOOD FEDERATION [IPPF]. Where next? London, IPPF, 1975. 47 p.

105. JOCANO, F. L. Cultural consequences of population change in the Philippines. In: Smithsonian Institution. Center for the Study of Man. Cultural consequences of population change. Report of a seminar held in Bucharest, Romania, August 14-17, 1974. Washington, D.C., April 1975. 32 p.

106. JOHNSON, C. L. Adolescent pregnancy: intervention into the poverty cycle. Adolescence 9(35): 391-406. Fall 1974.

107. JOHNSON, C. L. Attitudes toward premarital sex and family planning for single-never-pregnant teenage girls. Adolescence 9(34): 255-262. Summer 1974.

108. JOHNSON, L. B., BURKET, R. L. and RAUH, J. L. Problems with contraception in adolescence. Clinical Pediatrics 10(6): 315-319. June 1971.

109. JORGENSEN, V. One-year contraceptive follow-up of adolescent patients. American Journal of Obstetrics and Gynecology 115(4): 484-488. February 1973.

110. KABUGUA, M. Observations on abortion and sex education in Kenya. Sunday Nation, August 1, 1971. p. 78-80.

111. KALTREIDER, D. F. and JOHNSON, J. W. C. Patients at high risk for low-birth-weight delivery. American Journal of Obstetrics and Gynecology 124(3): 251-256. February 1, 1976.

112. KANTNER, J. F. Coming of age in America. Paper presented at the Conference on Research on the Consequences of Adolescent Pregnancy and Childbearing. Center for Population Research, National Institutes of Health, Bethesda, Maryland, October 29-30, 1975. 26 p.

113. KANTNER, J. F. and ZELNIK, M. Sex and reproduction among U.S. teenage women. Draper World Population Fund Report No. 1, Autumn 1975. p. 13-15.

114. KAUFMAN, S. A. When teen-agers ask for the pill. Family Planning Perspectives 2(2): 49-50. March 1970.

115. KEENY, S. M. Pill day in Cangaring. Keeny's Newsletter 73: 3-6. October-December 1975.

116. KELLOGG, E. H., KLINE, D. K., and STEPAN, J. The world's laws and practices on population and sexuality education. Medford, Massachusetts, Tufts University, Fletcher School of Law and Diplomacy, 1975. (Law and Population Monograph Series No. 25) 127 p.

117. KISEKKA, M. N. Sexual attitudes and behavior among students in Uganda. Journal of Sex Research 12(2): 104-116. May 1976.

118. KLEIN, L. Early teenage pregnancy: contraception, and repeat pregnancy. American Journal of Obstetrics and Gynecology 120(2): 249-256. September 15, 1974.

119. KNODEL, J. and PRACHUABMOH, V. Fertility of Thai women. Bangkok, Chulalongkorn University, Institute of Population Studies, November 1973. (Research Report Number 10) p. 1-41.

120. KODIKARA, S. U. Cultural consequences of population change in Sri Lanka. In: Smithsonian Institution. Center for the Study of Man. Cultural consequences of population change. Report on a seminar held in Bucharest, Romania, August 14-17, 1974. Washington, D.C., April 1975. 48 p.

121. KOETSAWANG, S. [Family planning for adolescents in Thailand]. Personal communication to W. B. Hunt, 2nd, March 2, 1976. 3 p.

122. KOETSAWANG, S. Induced abortion in Bangkok. Abortion Research Notes 2(2, Suppl. 5) May 1973. 1 p.

123. KREMER, J. The doctor and society—contraception for minors. Paper presented at the Organon meeting on Contraception in Adolescence, Amsterdam, April 1975. 11 p.

124. KUMEKPOR, T. K. Socio-cultural dimensions of abortion in selected West African countries. Paper presented at the International Planned Parenthood Federation Conference on Medical and Social Aspects of Abortion in Africa, Accra, Ghana, December 1973. 21 p.

125. LAING, J. E. [Family planning and adolescents in the Philippines]. Personal communication to W. B. Hunt, 2nd, February 20, 1976. 2 p.

126. LAMBO, T. A. Social problems with problems of adolescents in transitional cultures of Africa. Paper presented at the World Health Organization Conference on Health Problems of Adolescence, Geneva, November 3-9, 1964. 18 p.

127. LANE, M. E., ARCEO, R., and SOBRERO, A. J. Successful use of the diaphragm and jelly by a young population: report of a clinical study. Family Planning Perspectives 8(2): 81-85. March-April 1976.

128. LANE, M. E. and SOBRERO, A. J. Experience with intrauterine contraception by adolescent women. Mount Sinai Journal of Medicine 42(4): 337-344. July-August 1975.

129. LEE, L. T. and PAXMAN, J. M. Pregnancy and abortion in adolescence: a comparative legal survey and proposals for reform. Columbia Human Rights Law Review 6(2): 307-356. Fall-Winter 1974-1975.

130. LEVINE, R. A. Gusii sex offenses: a study in social control. American Anthropologist 61(6): 965-990. December 1959.

131. LIEBERMAN, E. J. Mental health aspects of adolescent pregnancy and abortion. Paper presented at the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 25 p.

132. LIEBERMAN, E. J. Psychological consequences of adolescent pregnancy and abortion. Paper presented at the Conference on Research on the Consequences of Adolescent Pregnancy and Childbearing, Center for Population Research, National Institutes of Health, Washington, D.C., October 1975. 17 p.

133. LIEBERMAN, E. J. and PECK, E. Sex and birth control. New York, Schocken, 1975. p. 47-130.

134. LIEDHOLM, P. and SJOBERG, N.-O. Two years experience with copper-T200 in a Swedish population—a comparison between nulliparous and parous women. Contraception 10(1): 55-61. July 1974.

135. LLEWELLYN-JONES, D. Human reproduction and society. New York, Wiley, 1974. p. 244-298, 383-389.

136. LUCKEY, E. B. and NASS, G. D. Comparison of sexual attitudes and behavior in an international sample. Journal of Marriage and the Family 31(2): 364-379. May 1969.

137. MALL-HAEFELI, M. Advice for contraception in adolescents. Paper presented at the Organon meeting on Contraception in Adolescence, Amsterdam, April 1975. 6 p.

138. MARGOLIS, A., RINDFUSS, R., COGHLAN, P., and ROCHAT, R. Contraception after abortion. Family Planning Perspectives 6(1): 58-60. Winter 1974.

139. MARINOFF, S. C. Contraception in adolescents. Pediatric Clinics of North America 19(3): 811-819. August 1972.

140. MARINOFF, S. C. and FIEDLER, D. E. Some factors affecting staff attitudes toward offering intrauterine devices to adolescent patients. Public Health Reports 89(4): 372-376. July-August 1974.

141. MARINOFF, S. C. and SCHONHOLZ, D. H. Adolescent pregnancy. Pediatric Clinics of North America 19(3): 795-802. August 1972.

142. MASSE, N. and DESCHAMPS, J.-P. Child development indicators and public health. Les Carnets de L'Enfance 32: 18-32. October-December 1975.

143. MEAD, M. and METRAUX, R. A way of seeing. New York, McCall, 1970. p. 163-183.

144. MELTON, R. J. and SHELTON, J. D. Pill versus IUD: continuation rates of oral contraceptive and Dalkon Shield users in Maryland clinics. Contraception 4(5): 319-326. November 1971.

145. MENCHER, J. Family planning in Chingleput District, Madras, India. In: Polgar, S., ed. Culture and population: a collection of current studies. Chapel Hill, North Carolina, Carolina Population Center, 1971. (Monograph 9) p. 151-159.

146. MENKEN, J. A. The health and demographic consequences of adolescent pregnancy and childbearing. Paper presented at the Conference on Research on the Consequences of Adolescent Pregnancy and Childbearing. Center for Population Research, National Institutes of Health, Bethesda, Maryland, October 29-30, 1975. 44 p.

147. MENKEN, J. A. The health and social consequences of teenage childbearing. Family Planning Perspectives 5(3): 45-52. July 1972.

148. MENKEN, J. A. Teenage childbearing: its medical aspects and implications for the United States population. In: Westoff, C. F. and Parke, R., Jr., eds. Demographic and social aspects of population growth. Washington, D.C., Government Printing Office, 1972. (Commission on Population Growth and the American Future, Research Reports, Volume 1) p. 333-353.

149. MILLER, P. Y. Adolescent sexual behavior: context and change. Social Problems 22(1): 58-76. October 1974.

150. MINKLER, D. H. Fertility regulation for teen-agers. Clinical Obstetrics and Gynecology 14(2): 420-431. June 1971.

151. MINKOWSKI, W. L., WEISS, R. C., and HEIDBREDER, G. A. The County of Los Angeles Health Department youth clinics. American Journal of Public Health 61(4): 757-762. April 1971.

152. MINKOWSKI, W. L., WEISS, R. C., LOWTHER, L., SHONICK, H. and HEIDBREDER, G. A. Family planning services for adolescents and young adults. Western Journal of Medicine and Surgery 120(2): 116-123. February 1974.

153. MISHELL, D. R., Jr. Assessing the intrauterine device. Family Planning Perspectives 7(3): 103-111. May-June 1975.

154. MISHELL, D. R., Jr. IUD revisited. Family Planning Perspectives 7(8): 246. November-December 1975.

155. MISHELL, D. R., Jr., ISRAEL, R., and FREID, N. Study of the copper T intrauterine contraceptive device (T Cu 200) in nulliparous women. American Journal of Obstetrics and Gynecology 117(8): 1092-1096. August 15, 1973.

156. MOLNOS, A. Social and environmental limits to many children. In: Molnos, A., ed. Beliefs and practices. Nairobi, East African Publishing House, 1973. (Cultural source materials for population planning in East Africa, Volume 3) p. 7-26.

157. MONTGOMERY, T. L. Adolescent sexuality and paramarriage. American Journal of Obstetrics and Gynecology 124(8): 818-821. April 15, 1976.

158. MORRIS, L. Estimating the need for family planning services among unwed teenagers. Family Planning Perspectives 6(2): 91-97. Spring 1974.

159. MORRIS, L. International trip report: Panama, January 13-23, 1975. [Atlanta, Georgia], U.S. Center for Disease Control, February 10, 1975. 39 p.

160. MORRIS, L. and ANDERSON, J. E. Demographic goal-setting: Guatemala. [Atlanta, Georgia], U.S. Center for Disease Control, May 30, 1975. 47 p.

161. MORRIS, L. and MONTREAL, T. International trip report: El Salvador, October 13-19, 1974. [Atlanta, Georgia], U.S. Center for Disease Control, December 30, 1974. 59 p.

162. MUNZ, D., CARSON, S., BROCK, B., BELL, L., KLEINMAN, I., ROBERT, M., and SIMON, J. Contraceptive knowledge and practice among undergraduates at a Canadian university. American Journal of Obstetrics and Gynecology 124(5): 499-505. March 1, 1976.

163. NAG, M. Factors affecting human fertility in nonindustrial societies: a cross-cultural study. New Haven, Connecticut, Human Relations Area Files Press, 1968. p. 19-30, 48-61, 86-91, 105-112, 129-138.

164. NATIONAL ACADEMY OF SCIENCES. INSTITUTE OF MEDICINE. Legalized abortion and the public health. Washington, D.C., National Academy of Sciences, May 1975. p. 1-8.

165. NDETI, K. Cultural consequences of rapid population growth in Kenya. In: Smithsonian Institution. Center for the Study of Man. Cultural consequences of population change. Report on a seminar held in Bucharest, Romania, August 14-17, 1974. Washington, D.C., April 1975. 44 p.

166. NETTLES, J. B., GATCHELL, L. H., PROTHRO, G. W., DEPERSIO, S. R., and MARVIN, E. A. The need for comprehensive programs for school-age parents. Mount Sinai Journal of Medicine 42(5): 452-455. September-October 1975.

167. NORTMAN, D. Parental age as a factor in pregnancy outcome and child development. Reports on Population/Family Planning No. 16, August 1974. 52 p.

168. NORTMAN, D. and HOFSTATTER, E. Population and family planning programs: a factbook. Reports on Population/Family Planning No. 2 (Seventh edition). October 1975. 88 p.

169. OPPEL, W. C. and ROYSTON, J. B. Teen-age births: some social, psychological, and physical sequelae. American Journal of Public Health 61(4): 751-756. April 1971.

170. ORLEANS, L. A. New patterns in China's family planning. Draper World Population Fund Report No. 1, Autumn 1975. p. 10-12.

171. ORREGO DE FIGUEROA, T. Some aspects of the health status of young women in Latin America and the Caribbean. Paper presented at the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 9 p.

172. PAJNTAR, M. Pregnancy and abortion in adolescents, in Republic Slovenia. Paper presented at the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 7 p.

173. PALAN, V. T. Preliminary report: a study of the knowledge, attitudes, and beliefs of Malaysian youths on social and biological development. Kuala Lumpur, Federation of Family Planning Associations, March 1976. 11 p.

174. PARK, I. S. Medical aspects of pregnancy and abortion in adolescence. Paper presented at the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 25 p.

175. PARKES, A. S. Biological aspects of teenage pregnancy. Draper World Population Fund Report No. 1, Autumn 1975. p. 20.

176. PAUL, E. W. The legal rights of minors to sex-related medical care. Columbia Human Rights Law Review 6(2): 357-378. Fall-Winter 1974-1975.

177. PAUL, E. W., PILPEL, H. F., and WECHSLER, N. F. Pregnancy, teenagers and the law, 1974. Family Planning Perspectives 6(3): 142-147. Summer 1974.

178. PAUL, E. W., PILPEL, H. F., and WECHSLER, N. F. Pregnancy, teenagers and the law, 1976. Family Planning Perspectives 8(1): 16-21. January-February 1976.

179. PAULS, F. The adolescent and pregnancy in Zaire. Paper presented at the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 12 p.

180. PIOTROW, P. T. Mothers too soon. Draper World Population Fund Report No. 1, Autumn 1975. p. 3-5.

181. PLIONIS, B. M. Adolescent pregnancy: review of the literature. Social Work 20(4): 302-307. July 1975.

182. POFFENBERGER, T. Should reproductive behavior be included in population education?—A cultural approach. Ann Arbor, Michigan, University of Michigan, Department of Population Planning, 1975. [Population Planning Working Paper No. 13] 22 p.

183. POMEROY, R. and LANDMAN, L. C. Public opinion trends: elective abortion and birth control services to teenagers. Family Planning Perspectives 4(4): 44-55. October 1972.

184. PRESSER, H. B. Early motherhood: ignorance or bliss? Family Planning Perspectives 6(1): 8-14. Winter 1974.

185. PRESSER, H. B. Social consequences of teenage childbearing. Paper presented at the Conference on Research on the Consequences of Adolescent Pregnancy and Childbearing, Center for Population Research, National Institutes of Health, Bethesda, Maryland, October 29-30, 1975. 30 p.

186. PUFFER, R. R. and SERRANO, C. V. Birthweight, maternal age, and birth order: three important determinants of infant mortality. Washington, D.C., Pan American Health Organization, 1975. (Scientific Publication No. 294) 42 p.

187. PUFFER, R. R. and SERRANO, C. V. Teenage pregnancies: high risk for infants. Draper World Population Fund Report No. 1, Autumn 1975. p. 16.

188. PURANDARE, V. N., and KRISHNA, U. R. Pregnancy and abortion in adolescence. Paper presented at the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 11 p.

189. RAUH, J. L. and BURKET, R. L. IUD revisited. Family Planning Perspectives 7(6): 244. November-December 1975.

190. RAUH, J. L., BURKET, R. L., and BROOKMAN, R. R. Contraception for the teenager. Medical Clinics of North America 59(6): 1407-1418. November 1975.

191. RAUH, J. L., JOHNSON, L. B., and BURKET, R. L. The management of adolescent pregnancy and prevention of repeat pregnancies. HSMHA Health Reports 86(1): 66-73. January 1971.

192. RAUH, J. L., JOHNSON, L. B., and BURKET, R. L. The reproductive adolescent. Pediatric Clinics of North America 20(4): 1005-1020. November 1973.

193. RAVENHOLT, R. T. and YOUNG, T. C. Demography and population control. In: McGraw Hill Yearbook of Science. New York, McGraw-Hill, 1969. p. 7-17.

194. REDMAN, L. J. and LIEBERMAN, E. J. Abortion, contraception and child mental health. Family Planning Perspectives 5(2): 71-72. Spring 1973.

195. REICHELT, P. A. and WERLEY, H. H. A sex information program for sexually active teenagers. Journal of School Health 45(2): 100-107. February 1975.

196. REISS, I. L. Premarital sexuality: past, present and future. In: Reiss, I. L., ed. Readings on the family system. New York, Holt, Rinehart and Winston, 1972. p. 167-189.

197. REISS, I. L. Sexual renaissance: a summary and analysis. Journal of Social Issues 12(2): 123-137. April 1966.

198. REY, TOCKER, I. Grossesse et contraception de l'adolescente. [Pregnancy and contraception in adolescents.] [Fr.] Schweizerische Medizinische Wochenschrift 103: 1008-1012. 1973.

199. ROOPNARINESINGH, S. S. Young Negro primigravida in Jamaica. Journal of Obstetrics and Gynaecology of the British Commonwealth 77(5): 424-426. May 1970.

200. RINEHART, W. Post-coital contraception. Population Reports, Series J, Number 9. Washington, D.C., George Washington University Medical Center, Population Information Program, January 1976. 16 p.

201. ROSOFF, J. I. Supreme Court says minors don't need parental consent to get contraceptives in federally subsidized programs. Planned Parenthood-World Population Washington Memo W-10: 1-2. June 4, 1976.

202. RUSSELL, J. K. Advances in obstetrics and gynecology. Practitioner 201: 568-574. October 1968.

203. RUSSELL, J. K. Medical aspects of pregnancy and abortion in adolescence—a review of the literature with identification of some aspects which merit special study. Paper presented at the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 56 p.

204. RUZICKA, L. T. Non-marital pregnancies in Australia since 1947. Journal of Biosocial Science 7(2): 113-132. April 1975.

205. RYDE-BLOMQVIST, E. Contraception in adolescence—a review of the literature. Paper presented at the World Health Organization Consultation on Contraception in Adolescence, Geneva, September 8-10, 1975. 27 p.

206. SAI, F. T. Contraception in adolescence. Paper presented at the World Health Organization Consultation on Contraception in Adolescence, Geneva, September 8-10, 1975. 8 p.

207. SCHOFIELD, M. Sexual behaviour of young adults: a follow-up study to the sexual behaviour of young people. Boston, Little, Brown, 1973. p. 90-131, 160-172.

208. SHAH, F., ZELNIK, M., and KANTNER, J. F. Unprotected intercourse among unwed teenagers. Family Planning Perspectives 7(1): 39-44. January-February 1975.

209. SHEARIN, R. B. Adolescent sexuality. American Family Physician 12(3): 109-112. September 1975.

210. SHY, G. L. [Family planning for adolescents in Taiwan] Personal communication to W. B. Hunt, 2nd, February 23, 1976. p. 1.

211. SIGUSCH, V. and SCHMIDT, G. Teenage boys and girls in West Germany. Journal of Sex Research 9(2): 107-123. May 1973.

212. SINNATHURAY, T. A. Country situation report in Malaysia. Paper presented at the World Health Organization Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 13 p.

213. SKLAR, J. and BERKOV, B. Teenage family formation in post-war America. Family Planning Perspectives 6(2): 80-90. Spring 1974.

214. SMITH, P. C. Philippine nuptiality in the twentieth century. Manila, Population Institute, University of the Philippines, April 1973. (Research Paper Series 73-3) 50 p.

215. SOEWONDO, N. Marriage law reform in Indonesia. Draper World Population Fund Report No. 1, Autumn 1975. p. 18-19.

216. SPEIDEL, J. J. Knowledge of contraceptive techniques among a hospital population of low socio-economic status. Journal of Sex Research 6(4): 284-306. November 1970.

217. STAMPAR, D. Contraception in adolescence. Paper presented at the Organon meeting on Contraception in Adolescence, Amsterdam, April 1975. 4 p.

218. STEPAN, J. and KELLOGG, E. H. The world's laws on contraceptives. Medford, Massachusetts, Tufts University, Fletcher School of Law and Diplomacy, 1974. (Law and Population Monograph Series No. 17) 105 p.

219. STICKLE, G. Pregnancy in adolescents: scope of the problem. Contemporary Obstetrics and Gynecology 5(6): 85-91. June 1975.

220. TANNER, I. M. Development of the female reproductive system during adolescence. Clinical Obstetrics and Gynecology 3: 135-145. 1960.

221. TAUBERT, H.-D. Inhibition of LH-RH-stimulated release of LH and FSH by oral contraceptives. Paper presented at the Organon meeting on Contraception in Adolescence, Amsterdam, April 1975. 1 p.

222. TEPER, S. Recent trends in teenage pregnancy in England and Wales. Journal of Biosocial Science 7(2): 141-152. April 1975.

223. TIETZE, C. Use of intrauterine devices by never-pregnant women. In: Sobrero, A. J. and Lewit, S., eds. Advances in planned parenthood, Volume 4. (Proceedings of the Sixth Annual Meeting of the American Association of Planned Parenthood Physicians, San Antonio, Texas, April 16-17, 1968) Amsterdam, Excerpta Medica, 1969. p. 84-87.

224. TIETZE, C. and LEWIT, S. Comparison of three contraceptive methods: diaphragm with jelly or cream, vaginal foam, and jelly/cream alone. Journal of Sex Research 3(4): 295-311. November 1967.

225. TIETZE, C. and MURSTEIN, M. C. Induced abortion: 1975 factbook. Reports on Population/Family Planning No. 14. (2nd edition) December 1975. 76 p.

226. TOPLEY, M. Some aspects of change in Hong Kong Chinese family life. In: Family Planning Association of Hong Kong, ed. Responsible Parenthood and Family Life Education (Proceedings of the Seminar of the Western Pacific Region of the International Planned Parenthood Federation [IPPF], Hong Kong, September 28-October 1, 1971). Hong Kong, IPPF, April 1972. p. 18-21.

227. TRAN, D. D. The teenage pregnancy problem. Virginia Medical Monthly 100: 722-729. August 1973.

228. TRUSSELL, T. J. Economic consequences of teenage childbearing. Paper presented at the Conference on Research on the Consequences of Adolescent Pregnancy and Childbearing, Center for Population Research, National Institutes of Health, Bethesda, Maryland, October 29-30, 1975. 23 p.

229. TSAFRIR, J. S. Pregnancy and abortion in adolescence in developing countries. Paper presented at the WHO Meeting on Pregnancy and Abortion in Adolescence, Geneva, June 24-28, 1974. 20 p.

230. TYRER, L. B. and GRANZIG, W. A. Contraceptives for the teen-ager: things to know before prescribing. Consultant 15(11): 170, 175, 178-179. November 1975.

231. UNITED NATIONS [UN]. Recent population trends and future prospects. Presented at the UN World Population Conference, Bucharest, August 19-30, 1974. New York, 1974. (E/CONF. 60/3) p. 55-59.

232. UNITED NATIONS [UN]. Seminar on the status of women and family planning (Presented at Istanbul, Turkey, July 11-24, 1972). New York, 1972. (ST/TAO/HR/46) 33 p.

233. UNITED NATIONS [UN]. Study on the interrelationship of the status of women and family planning (Conference background paper for the World Population Conference, Bucharest, August 19-30, 1974). New York, 1974. (E/CONF. 60/CBP/11) 22 p.

234. UNITED NATIONS [UN]. Study on the interrelationship of the status of women and family planning. Addendum. (Background paper for the World Population Conference, Bucharest, August 19-30, 1974). New York, June 1974. (E/CONF. 60/CBP/11/Add. 3) 38 p.

235. UNITED NATIONS [UN], CENTRE FOR ECONOMIC AND SOCIAL INFORMATION [CESI]. Youth and population. [Report of the Working Party on Youth and Population, Turin, July 17-21, 1972] New York, 1973. (CESI/WPY-7) 48 p.

236. UNITED NATIONS FUND FOR POPULATION ACTIVITIES [UNFPA]. Symposium on law and population: proceedings, background papers, and recommendations. Tunis, June 21-24, 1974. New York, UNFPA, 1975. p. 278.

237. UNITED NATIONS [UN], SECRETARIAT. Women's rights and fertility. [Background paper for the World Population Conference, Bucharest, August 19-30, 1974] New York, March 15, 1974. (E/CONF. 60/CBP/5) 26 p.

238. UNITED NATIONS [UN], SECRETARIAT. World and regional population prospects. [Background paper for the World Population Conference, Bucharest, August 19-30, 1974] New York, April 16, 1974. (E/CONF.60/CBP/15) 33 p.

239. UNITED STATES. CENTER FOR DISEASE CONTROL [CDC]. Abortion surveillance—annual summary 1972. Atlanta, Georgia, CDC, April 1974. (DHEW Publication No. (CDC)74-8205) 34 p.

240. UNITED STATES. CENTER FOR DISEASE CONTROL [CDC]. Abortion surveillance—annual summary 1973. Atlanta, Georgia, CDC, May 1975. (DHEW Publication No. (CDC) 75-8205) 32 p.

241. UNITED STATES. CENTER FOR DISEASE CONTROL [CDC]. Abortion surveillance report—legal abortions, United States, annual summary, 1971. Atlanta, Georgia, CDC, December 1972. (DHEW Publication No. (HSM)73-8205) 33 p.

242. UNITED STATES. DEPARTMENT OF COMMERCE. Marital status and living arrangements: March 1975. Washington, D.C., U.S. Government Printing Office, December 1975. (Current Population Reports Series P-20, No. 287) 41 p.

243. UNITED STATES. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE [DHEW]. NATIONAL CENTER FOR HEALTH STATISTICS. Advance report—final natality statistics, 1974. Monthly Vital Statistics Report 24(11, Suppl. 2): 1-15. February 13, 1976.

244. VADIES, G. and POMEROY, R. Out-of-wedlock pregnancy among American teenagers. Journal of Clinical Child Psychology 3(3): 27-29. Fall-Winter 1974.

245. VADIES, G. and POMEROY, R. Pregnancy among single American teen-agers. Advances in Planned Parenthood 10(4): 198-203. 1975.

246. VIS, H. L., BOSSUYT, M., HENNART, P., and CARAEL, M. The health of mother and child in rural Central Africa. Studies in Family Planning 6(12): 437-441. December 1975.

247. WEICHMAN, G. H. and ELLIS, A. L. Study on the effects of sex education on premarital petting and coital behavior. In: Rogers, R. S., ed. Sex education—rationale and reaction. London, Cambridge University Press, 1974. p. 265-270.

248. WIDHOLM, O. The need for gynaecological services during adolescence. Annales Chirurgiae et Gynaecologiae Fenniae 60: 67-70. 1971.

249. WIDHOLM, O., KANTERO, R. L., and RAUTANEN, E. Medical and social aspects of adolescent pregnancies. Acta Obstetricia et Gynecologica Scandinavica 53(4): 347-353. 1974.

250. WILSON, S. J., KEITH, L., WELLS, J., and STEPTOE, R. C. A preliminary survey of 16,000 teen-agers entering a contraceptive program. Chicago Medical School Quarterly 32(1-4): 26-35. 1973.

251. WINAVER, D. Resistances de la mineure a la contraception. [Resistance of the minor to contraception.] [FR] Contraception, Fertilité, Sexualité 3(4): 243-245. June-July 1975.

252. WOLFISH, M. G. Adolescent sexuality. Clinical Pediatrics 12(4): 244-247. April 1973.

253. WORLD HEALTH ORGANIZATION [WHO]. Consultation on contraception in adolescence, Geneva, September 8-10, 1975. Geneva, WHO, 1976. (MCH/76.1) 22 p.

254. WORLD HEALTH ORGANIZATION [WHO]. Health problems of adolescence. Geneva, WHO, 1965. (Technical Report Series No. 308) 28 p.

255. WORLD HEALTH ORGANIZATION [WHO]. Pregnancy and abortion in adolescence: report of a WHO meeting, Geneva, June 24-28, 1974. Geneva, WHO, 1975. (Technical Report Series No. 583) 27 p.

256. WORTMAN, J. The diaphragm and other intravaginal barriers—a review. Population Reports, Series H, Number 4. Washington, D.C., George Washington University Medical Center, Population Information Program, January 1976. 19 p.

257. WRAY, J. D. Population pressure on families: family size and child spacing. In: National Academy of Sciences. Rapid population growth. Baltimore, Johns Hopkins Press, 1971. p. 403-461.

258. YAMAGUCHI, M. Sex problems and sex education in Japan. In: Family Planning Association of Hong Kong, ed. Responsible parenthood and family life education. (Proceedings of the Seminar of the Western Pacific Region of the International Planned Parenthood Federation [IPPF], Hong Kong, September 28-October 1, 1971.) Hong Kong, IPPF, April 1972. p. 27-37.

259. YOUNGS, D. D. and NIEBYL, J. R. Adolescent pregnancy and abortion. Medical Clinics of North America 59(6): 1419-1427. November 1975.

260. ZACHARIAS, L., RAND, W. M., and WURTMAN, R. J. A prospective study of sexual development and growth in American girls: the statistics of menarche. Obstetrical and Gynecological Survey 31(4, Suppl.): 325-337. April 1976.

261. ZACHARIAS, L., WURTMAN, R. J., and SCHATZOFF, M. Sexual maturation in contemporary American girls. American Journal of Obstetrics and Gynecology 108(5): 833-840. November 1, 1970.

262. ZELNIK, M. and KANTNER, J. F. The resolution of teenage first pregnancies. Family Planning Perspectives 6(2): 74-79. Spring 1974.

263. ZELNIK, M. and KANTNER, J. F. Sex and contraception among unmarried teenagers. In: Westoff, C. F., ed. Toward the end of growth: population in America. Englewood Cliffs, New Jersey, Prentice Hall, 1973. p. 7-18.

264. ZELNIK, M. and KANTNER, J. F. Sexuality, contraception and pregnancy among young unwed females in the United States. In: Westoff, C. F. and Parke, R., Jr., eds. Demographic and social aspects of population growth. Washington, D.C., Government Printing Office, 1972. (Commission on Population Growth and the American Future, Research Reports, Volume 1) p. 357-374.

265. ZELNIK, M. and KANTNER, J. F. Some preliminary observations on pre-adult fertility and family formation. Studies in Family Planning 3(4): 59-65. April 1972.

266. ZIPPER, J., MEDEL, M., PASTENE, L., TORRES, L., OSORIO, A., RIVERA, M., and TOSCANINI, C. Studies of the physiological activity of IUDs containing copper. Contraception 12(1): 1-10. July 1975.

267. ZUCKERMAN, R. J. Abortion and contraception: a minor's constitutional right to privacy. Family Planning/Population Reporter 4(6): 114-123. December 1975.

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